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ABSTRACT

In 1997, 78,644 Alaskans participated in vocational education (VE) in a public secondary school or university. Enrollments in secondary- and postsecondary-level VE were approximately equal. At the secondary level, 57% of vocational students were male. Alaskan natives accounted for only 15% of the total vocational enrollment at the postsecondary level. Job placement was the goal for most VE, particularly at the postsecondary level. Of the 1994 VE program completers, 77% were employed in Alaska in the year after their graduation, and 46% were employed in an occupation directly related to their course of study. As a group, VE completers earned 52% more than graduates with no VE. For Alaskan natives and female completers of postsecondary VE, the wage benefits of VE increased 57% and 178%, respectively. State funding was by far the greatest source of funding for VE. Several significant trends were affecting VE in Alaska, including the following: Alaska's Quality Schools initiative, school-to-work, welfare reform, and Carl Perkins reauthorization. The following broad themes for VE program improvement were identified through a review of pertinent documents and interviews with VE stakeholders: embrace school reforms; engage in the state's economic development agenda; and provide leadership and resources. (Contains 39 references and an executive summary precedes the full report.) (MN)

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1997 STATUS REPORT

Vocational Education in Alaska

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Juneau, Alaska

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Linda VanBallenberghe • Project Manager
April, 1997

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1997 STATUS REPORT

Vocational Education in Alaska

EXECUTIVE SUMMARY

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by

Madden Associates
Juneau, Alaska

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1997 STATUS REPORT

Vocational Education in Alaska

EXECUTIVE SUMMARY

Background of the Report

The Alaska Department of Education commissioned a report on the state's vocational education system to determine how the system prepares Alaskans for the workforce. The report identified training resources and opportunities available in the state and examined the relationships between programs and specific outcomes. In particular, the report asked the following questions:

- What vocational programs are available, where, and whom do they serve?
- How do programs facilitate transitions to jobs or further training?
- How do the skills being taught relate to skills demanded in the Alaskan labor market?
- How are programs supported?
- What are the issues facing vocational education?
- How can the system be improved?

Why Is A Report Needed?

The vocational education system of the state is currently facing a number of challenges and issues which make such a report valuable. In the K-12 system, the Quality School initiative, which seeks to improve all aspects of education, is forcing vocational educators to redefine their role at the secondary level. Discussions of school financing reform and federal program consolidation focus attention on categorical funding. The School to Work movement challenges schools to extend workforce preparedness activities to all students, not just those enrolled in formally-defined vocational education programs.

At the postsecondary level, the University system continues to seek ways of fulfilling its vocational/technical education mission in the wake of the 1987 reorganization, which consolidated the community colleges into the three main campuses.

Changes in the Alaska workforce provide additional challenges. As various regions of the state experience a decline in natural resource harvesting and extraction activity, the number of displaced workers grows. Alaska's continued integration into a global economy brings new opportunities but also forces hard choices to be made with respect to what training should be offered and who should deliver it .

Social trends further affect the direction of vocational education. Welfare reform, as the most visible of these trends, currently receives the lion's share of attention, but the aging of the workforce, gender equity and changing conditions in rural Alaska also impact vocational programs.

The report is intended to assist state policy makers in examining the policy implications of these trends and to help stakeholders create a vision for an equitable and coordinated statewide delivery system for vocational education.

What Is Being Studied?

Definitions of vocational education vary, but a commonly-accepted description comes from the federal Carl Perkins Vocational and Applied Technology Act, which provides funding for both secondary and postsecondary vocational programs. According to this definition, vocational education programs exhibit the following characteristics. They offer a sequence of courses which are directly related to the preparation of individuals in paid or unpaid employment; prepare students for entry into current or emerging occupations; and require other than a baccalaureate or advanced degree.

The report looked for programs meeting this definition offered by secondary and postsecondary institutions around the state.

What Vocational Education Programs Are Offered?

Training at some educational level—secondary, certificate, associate degree—is offered in most all of the fields commonly recognized as "vocational". The following occupational listing is used for secondary programs:

- Natural Resources/Agriculture
- Business Management
- Office Skills
- Marketing
- Family/Consumer Science
- Technical Education
- Allied Health

Secondary schools also offer a variety of work experience such as cooperative education and on-the-job training and provide courses in applied academics which integrate occupational applications into standard academic classes. Postsecondary training is available in specialty areas within the above classifications.

Where Is Vocational Education Offered?

Vocational education programs and courses are offered in almost all areas of the state, by public secondary schools, branches of the University of Alaska system, two state-funded technical centers, one Job Corps Center, private non-profit agencies, apprenticeship programs and private career education institutions. A comprehensive listing of programs by region, level and institution is provided in the report. A summary look at enrollments in public secondary and university-system vocational education (Chart 1) shows how widespread training opportunities are. Enrollments are by course, not by head count, so there is some duplication because one person may take more than one course.

CHART #1

Enrollments in public secondary and university-system vocational education

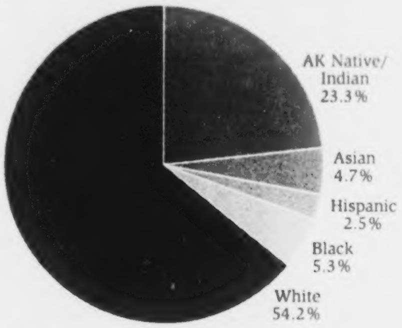
REGION	ENROLLMENT
Anchorage/Mat-Su	30,266
Gulf Coast	12,479
Interior	17,161
Northern	2,724
Southeast	12,007
Southwest	4,007
TOTAL	**78,644**

Who Is Served By Vocational Education Programs?

Enrollments in public institutions are about half at the secondary and half at the postsecondary level. In secondary programs, about 57 percent of enrollees are male, and 43 percent female. Chart 2 gives the ethnic makeup of the secondary population.

CHART #2

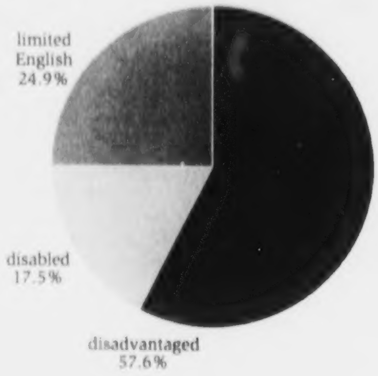
Ethnic makeup of secondary population



The university system's vocational programs show a lower participation rate among Alaskan Natives (15 percent of total vocational enrollment) and a correspondingly higher rate of enrollment by white students. Participation rates for other minorities are very similar to secondary programs.

CHART #3

Secondary Programs enrollment among special groups



Over the past decade, spurred largely by federal funding and requirements, secondary programs have concentrated on increasing participation of special groups. Currently, disadvantaged, disabled and limited-English - speaking students account for over 50 percent of total enrollment. Chart 3 shows the distribution among special groups.

How Do Programs Facilitate Transitions To Jobs Or Further Training?

Job placement is the goal for most vocational education, particularly at the postsecondary level. Probably the best way of determining how well the system places graduates in related employment is to follow up the graduates themselves and find out what they are doing. The report looked at several recent studies conducted by the Alaska Department of Labor which matched program completers against the Alaska Occupational Data Base and other data sources such as Permanent Fund Dividend files, occupational licenses, business licenses, fishing crew licenses and certain federal data files.

In the past several years, three major studies following up vocational education/training students have been conducted using this data: for Alaska Vocational Technical Center (AVTEC) at Seward (1994 graduates); University of Alaska vocational education students (1988 to 1991); and the Alaska Student Loan Program (all borrowers between 1984 and 1992).

The studies indicate that program completers enter or re-enter the local job market at relatively high rates. For example,

- 77 percent of AVTEC 1994 graduates had wage or salary employment in Alaska in the year after graduation;
- 46 percent were employed in Alaska in an occupation directly related to their course of study;
- average after-training salaries were 52 percent higher for the total group;
- Alaskan Native student earnings increased by 57 percent and female student post-training earnings were 178 percent higher than before training;
- 73 percent of University system completers were working in Alaska during the two years following completion of enrollment;
- an additional 2,900 were working for the federal government either in Alaska or elsewhere;
- another 1,668 had obtained some sort of state license—occupational, business or fishing crew—which may have been used for self-employment;
- two-thirds of Student Loan borrowers in the fields of therapy, technical and heavy duty operator had Alaska wage/salary earnings in the state in 1992.
- in-state job rates for other vocational programs ranged from over one-half to less than 20 percent.

Programs receiving federal funding, such as the Job Corps Center in Palmer and training operated under the Jobs Training Partnership Act, are required to follow up placement of graduates. Fiscal year 1996 rates from these programs vary from 83 percent placement from Job Corps completers to 57 percent for JTPA.

The only similar study involving secondary students was with Anchorage King Career Center graduates. Although on a much smaller scale—only 259 students were followed—the study found that a significant number (61.2 percent) had in-state employment in the fall following their graduation. Again, placement by program varied, from three-fourths of the students in automated office occupations to around four percent of students taking graphic arts.

Since much of secondary-level vocational education, particularly in the high technology areas, is exploratory or entry-level training, a better indicator of secondary program success is how well students transition to further training. Unfortunately, there is no current statistical information which addresses this area. However, agreements between secondary schools and neighboring postsecondary institution are becoming quite common in the state. Tech Prep or "2 x 2" programs provide bridges between secondary vocational education and a certificate or associate degree program, so that a student moves easily from one level to another. Most articulated programs allow students to earn postsecondary credits while still in high school. Tech prep programs are operated by all campuses of the university system, as well as the two technical schools at Seward and Kotzebue, in conjunction with local high schools. Although these programs are fairly new and information about how successful they are is still lacking, it is reasonable to assume that coordination between high school and postsecondary programs will make it easier for students to make this important transition.

How Are The Skills Being Taught Related To The Alaskan Job Market?

An important consideration for vocational programs supported by state funds is how well they relate to Alaskan labor market needs. The report matched training opportunities against labor demand from three sources: new and emerging occupations/jobs; vacancies from turn-over in current jobs and replacement for non-resident hires. Although some training was offered in the state for all occupations identified, it appears that the state could benefit from greater attention to training Alaskans for areas currently employing many non-resident workers. Fisheries and the oil industry are two examples.

Given the relatively constricted nature of the Alaskan job market, however, the training system should not be limited to those skills in local demand. One way of expanding opportunities to state residents is to develop a regional, national or international market for some training opportunities. For example, the recent state agreement with Sakhalin Island to provide training in petroleum exploration and extracting techniques strengthens the petroleum programs available to Alaskan students. National and international marketing of the air traffic control program using UAA's state-of-the-art facility would help support that facility for the relatively small numbers of Alaskan students in the program.

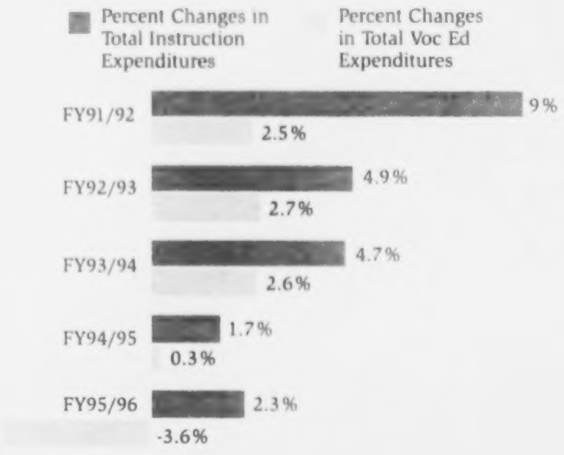
How Are Programs Supported?

State funding—through general fund, program receipts or student loans—is by far the greatest source of funding for vocational programs. Secondary vocational education is supported through the Public School Foundation program. Vocational education students generate both basic funding and special categorical funding, which takes into account the higher costs associated with providing appropriate materials and equipment for hands-on learning.

Although funds are generated by vocational programs, school districts are free to spend these funds in other ways. Therefore, to obtain an idea of how secondary programs are supported, the report examined expenditures by local school districts for vocational education. Over the past six years, these expendi-

CHART #4

Percent Change in Vocational and Total Instructional Expenditures



tures showed a modest increase of about 4.5 percent; however, when dollars are adjusted for inflation, the real expenditures have dropped by about 8 percent. At the same time, vocational education enrollments have increased. Chart 4 shows changes in local expenditures from the 1990/91 school year to last school year for vocational education compare with expenditures for all instruction.

During the same period, state support for other vocational education purposes—such as state administration, the two technical centers, RSVP (a program to provide urban work-experience for rural students) and student vocational leadership organizations—has declined by about 15 percent in actual dollars. In purchasing power, the decline has been around 25 percent.

State general fund also supports the university system training programs, Unfortunately, it is not possible to accurately sort out expenditures for vocational programs from expenditures for general education for each campus. Therefore, changes in support over time cannot be determined.

Public secondary and postsecondary training programs also receive federal support through the Carl Perkins Act. Appropriations since the early 1990's have been between $4 and 4.2 million. Perkins funds are a major source of program innovation and improvement, since state funds for program development are lacking.

The conclusion drawn from funding information is that vocational education programs, at least at the secondary level, have experienced a steady decline in purchasing power since the beginning of this decade. Support has also declined for state administration, the state-funded technical centers and several special programs. Although figures for the university system were not available, overall reductions in budgets most likely have caused a corresponding restriction on vocational program expenditures. This eroding support manifests itself in reduced vocational education staffs at both levels, as positions becoming vacant through turn over or early retirement remain unfilled. Belt-tightening is also evident in the obsolescence of equipment and materials used in many programs. In both systems, federal Carl Perkins funds—the one source of seed money for innovation—remain flat.

Vocational educators face an additional funding challenge in federal and state movements away from categorical funding to more flexible block funding. Under proposed changes at both levels, school districts and other grantees would be encouraged to combine funds from multiple sources to support comprehensive, consolidated plans. In such a system, all programs, including vocational education, must be able to defend themselves on the basis of student results rather than generation of categorical revenue.

What Are The Issues Facing Vocational Education?

Several significant trends are impacting the vocational education system of the state at present. From information gathered by this report, the most pressing of these are the

- Quality School Initiative
- School to Work
- Welfare reform
- Non-resident hires
- Carl Perkins Reauthorization/ Consolidated Plan
- Program Leadership

Each of these trends presents challenges to the current system.

Alaska's Quality Schools initiative has several components, including high academic student standards, quality professional standards, family, community and business involvement in student learning and school based accountability standards. Vocational education can play a substantial

ALASKA
QUALITY SCHOOLS
INITIATIVE
High Student Academic Standards & Assessment
Family, School, Business & Community Network
Quality Professional Standards
School Excellence Standards

role in identifying work-readiness and career planning skills which all students should achieve, helping academic teachers incorporate "real world" problems and hands-on activities into the general curriculum and forging school/ community partnerships for learning.

At the state level, the Department will be forwarding work readiness and career education standards to the State Board for adoption in the near future. Another area for which student standards are appropriate is in the occupational clusters covered by vocational education. These are not yet in place. The vocational education staff of the Department of Education are proposing that the state and the school districts develop these standards for those occupational clusters that are most widely demanded in the market place and most commonly taught in secondary programs.

In order for vocational education to impact the initiative, however, it must become more proactive at all levels. One of the more disturbing findings which surfaced through the interviews conducted for this report was the perceived lack of leadership and direction for vocational education. Although the school reform movement—which includes Quality Schools and School-to-Work—consists of elements long practiced by vocational educators, many of those interviewed felt that the movement was bypassing vocational education at best and at worst, engulfing it. Many interviewees cited the need for a strong voice which could articulate vocational education's role in school reform. Of particular concern was the need to preserve for secondary schools a place in occupational skill training.

School to Work is a new educational thrust directed at preparing all students to make a smooth transition from school to meaningful employment. It takes traditional concepts from vocational education and seeks to infuse them into the general curriculum.

Some district school to work efforts are an outgrowth of earlier activity funded through vocational education and vocational educators are assuming leadership of the process. In other districts, vocational education appears to be only marginally involved. Yet vocational educators, with their long history of applied learning, community involvement and performance-based assessment should be at the core of any education reform movement.

If vocational educators hold themselves aloof from the school to work initiative, there is some real danger that district commitment to occupational-specific skills for some students will be jettisoned in favor of attention to more general employability skill development for all students, even though it is clear that both sets of skills are needed. If other educators ignore the experience and expertise of vocational educators, the school-to-work movement could degenerate into an unrelated series of "real-life" episodes loosely grafted onto a business-as-usual traditional curriculum.

Welfare reform is on the minds of almost all current providers of vocational education and training in the state. Universally, providers expressed concern at the demands that will be placed on the economy as the public assistance system seeks to place more than 4,000 people in work over the next fiscal year.

Activities which count as work participation are clearly delineated in federal legislation. No more than 20 percent of individuals counting toward a state's work rate in any one month may meet the requirement by participating in vocational training or being an in-school teen parent. For 1998, about 850 public assistance clients would be eligible for training, including high school completion on the part of teen parents.

Although the state could allow training for this number, it need not do so. All states have the option of placing people in work without training—the so called "Work First" philosophy. Essential assumptions of this philosophy are

- the best way to succeed in the labor market is to join it.
- work habits and skills are developed on the job rather than in the classroom.
- any job is a good job and can be a stepping stone to a better job.

Many of those interviewed for this report expressed reservations about the Work First approach. The current system has considerable experience in attempting to assist individuals move from welfare to work. All involved with these program stress the need for attention to attitudes, life skills and social development prior to job placement. Given the fact that the new laws limit lifetime participation in the welfare system to 60 months, it seems imperative that the first attempt at transition from public assistance to work be as positive as possible. Failures will not get many more chances.

The issue of replacing **non-resident hires** with Alaskans presents a significant challenge for the existing system. Among problems to be solved are how to increase the ability of both public and private vocational educators to respond to industry demands, particularly in highly-technical fields and how Alaskans can participate in occupations which experience seasonal or cyclical demand. A partial answer to the last question may be to combine paid employment with subsistence in rural Alaska. In other areas such as seafood processing, it is becoming possible for trained people to have almost full-year work by "following the species"; e.g., moving from salmon to herring roe processing. Other ways of helping workers deal with uneven workforce demand need to be explored.

Carl Perkins reauthorization represents another challenge identified through interviews and data. Perkins funds have provided the major source of planning and development capital available to public and non-profit training institutions. Without these funds, the flexibility of the system—already limited by other constraints—will be further impaired.

Perkins funds can also fuel the comprehensive reform effort described above which has at its core the integration of academic and occupational, theoretical and applied learning for all students.

A related issue is the consolidated plan approach in which a district with an approved plan may combine and commingle federal categorical funds, including Carl Perkins moneys. This provides a heretofore unheard of opportunity for local districts to develop an integrated plan of school improvement, including improvement of students' work readiness and occupational skills. It also serves to remove the categorical protection from vocational education at the federal level.

Program leadership emerged as an issue in the course of interviews conducted for this report. Vocational educators and vocational students expressed concern that they and their programs were being overlooked in the school reform efforts currently taking place. Several interviewees noted the reduction in DOE vocational staff, the loss of a separate state-level advocacy board, the moves to eliminate categorical funding at both the state and the federal levels and the reorganization of the University system as evidence that the state's commitment to vocational training was waning. Yet, all those interviewed expressed a strong belief in vocational education's importance to education renewal as well as to the economic development of the state.

What most practitioners are asking for is a clear vision of how they can fit into the initiatives underway. Adoption of state standards for workforce preparedness, career guidance and occupational-specific skills would help provide this vision. Support—both fiscal and professional—to vocational educators as they work out new roles is also needed.

What Can Be Done To Improve The System?

From the information collected and interviews conducted for this report, three broad themes for program improvement emerged:

- embrace school reform efforts
- engage in the state's economic development agenda
- provide leadership and resources.

Under each of these themes, recommendations surfaced for programs, institutions and the state.

1. Embrace School Reform Efforts

At the program level

Recommendation: Vocational educators must become actively involved in assisting schools to teach employability skills, integrate academic and practical learning, provide occupational-specific skill training and connect classrooms with the community. This applies to postsecondary as well as secondary programs.

Recommendation: The learnings from vocational student leadership organizations concerning assessment by doing and community-judged performance should be considered by other curricular areas.

At the institutional level

Recommendation: Governing boards of school districts and the University system must recognize the value of vocational education in meeting school improvement goals. Commitment to quality vocational training should be a part of each institution's mission statement.

Recommendation: The University of Alaska system should continue to offer crucial teacher and program support to local secondary vocational education programs. This includes providing academic and hands-on training experiences for prospective and current vocational educators, assisting in statewide curricula development and performing action research on program performance.

Recommendation: Opportunities for demonstrating performance and developing leadership offered by vocational student leadership organizations should be supported at the local level and expanded to other areas of student performance.

At the state level

Recommendation: Performance standards for all students should be developed and adopted in the areas of career development and work readiness. These standards should identify internationally-competitive content and performance, link academic and occupational development, reflect the needs of employers, and make occupational education part of the core learning for all students.

Recommendation: A commonly-accepted set of career clusters should be adopted covering occupational areas in demand or projected to be in demand by the Alaska labor market as emerging/growth occupations, new hires in existing occupations or replacements of non-resident hires. Student performance standards, which integrate academic, employability, career development and occupational-specific skills, should then be developed and adopted for these clusters.

Recommendation: Performance of all public secondary and postsecondary programs should be measured periodically in terms of student post-training job placement, earnings, enrollment in apprenticeships or other training programs and other agreed-upon measures of success. Resources such as the Alaska Department of Labor wage and salary files should be utilized to assure comparability of results across programs.

2. Engage in the state's economic development agenda

At the program level

Recommendation: Training institutions should examine ways in which they can support state efforts to reduce non-resident hire.

Recommendation: In line with the previous recommendation, training institutions should seek ways to assist students combine seasonal or cyclical skill employment either sequentially or with subsistence activities as one way of reducing dependency on non-resident hire.

At the Institutional level

Recommendation: Barriers to offering short-term, industry specific courses in a rapid response mode should be identified and eliminated. This includes both internal and external program approval requirements, budget amendment processes and hiring practices among other potential barriers.

Recommendation: Institutions should be encouraged to develop programs which take advantage of Alaska's unique location and climate and to market these programs to the Lower 48 and internationally.

At the state level

Recommendation: The Alaska Human Resources Investment Council (AHRIC), as the entity charged with comprehensive workforce development, should continue to identify areas where training is needed, inform training institutions of this need and help secure the necessary resources.

Recommendation: Local advisory councils and other ways of assuring a close fit between training, labor market demands and community economic development should be required of all state-funded vocational education programs.

3. Provide leadership and resources

At the institutional level

Recommendations: Once an institution has determined to offer a program of occupational skill training, it should provide the staff, equipment and other resources necessary to assure program quality. Because funding will continue to be limited, institutions are encouraged to explore cooperative relationships to eliminate duplication and to fully utilize existing staff, equipment and facilities. Institutions are also encouraged to develop alternative delivery systems to extend training opportunities in space and time.

At the state level

Recommendation: Capital requests for training equipment and facility maintenance need to have some opportunity for funding from the state.

Recommendation: The state should support the reauthorization of the federal Carl Perkins Act, preferably along lines which would encourage reform initiatives. This implies that the current Perkins emphasis on special populations be lessened in favor of comprehensive, integrated program planning for all students.

Recommendation: The subcommittee of AHRIC charged with attention to vocational education needs to become more visible to practitioners and to include involvement of DOE staff.

Recommendation: School to apprenticeship efforts should be expanded to more students, possibly through regional or state coordination of local school and business/ union efforts. The number of occupations covered by registered apprenticeship and employer-based apprenticeship programs should be increased.

Recommendation: The experience of vocational training providers in assisting clients to transition from welfare to work should be examined and considered in setting up the state's welfare reform system. In particular, the state is urged to use appropriate job readiness and occupational-specific skill training to the extent allowed under federal law.

Copies of the full report are available from:
Alaska Department of Education • Division of Teaching and Learning Support
801 W. 10th Street, Suite 200 • Juneau, AK 99801-1894

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I. INTRODUCTION

In early 1997, the Alaska Department of Education commissioned a study to present a "clearly definable snap shot of the status quo of the state's vocational education system as a vehicle for workforce preparedness". The study seeks to identify training resources and opportunities available to Alaskan and to trace the relationships between programs and specific outcomes. In particular, the study asked the following questions:

- What vocational programs are available, where, and whom do they serve?
- How do programs facilitate transitions to jobs or further training?
- How do the skills being taught relate to skills demanded in the Alaskan labor market?
- How are programs supported?
- What are the issues facing vocational education?
- How can the system be improved?

The study serves as an assessment of the strengths and needs of the current system. The findings of the study are intended to assist state policy makers in creating a vision for equitable and coordinated statewide delivery system for vocational education.

The vocational education system of the state is currently facing a number of challenges and issues which make such a study valuable. In the K-12 system, the Quality School initiative, which seeks to improve all aspects of education, is forcing vocational educators to redefine their role at the secondary level. State leaders must determine what is or should be the relationship of vocational outcomes to the content standards for Alaska students, adopted by the State Board of Education. Vocational educators need to address how teacher and administrator performance standards should be applied at local levels. Discussions of school financing reform and federal program consolidation focus attention on categorical funding. The School to Work movement challenges schools to extend workforce preparedness activities to all students, not just those enrolled in formally-defined vocational education programs.

At the postsecondary level, the University system continues to seek ways of fulfilling its vocational/technical education mission in the wake of the 1987 reorganization, which consolidated the community colleges into the three main campuses. Private career educators face revisions in state and federal student financial aid which may substantially alter their ability to attract students.

Changes in the Alaska workforce provide additional challenges. As various regions of the state experience a decline in natural resource harvesting and extraction activity, the number of displaced workers grows. Retraining an experienced workforce may require a substantially different system than that already in place. Alaska's continued integration into a global economy brings new opportunities but also forces hard choices to be made with respect to what training should be offered and who should deliver it .

Social trends further affect the direction of vocational education. Welfare reform, as the most visible of these trends, currently receives the lion's share of attention, but the aging of the workforce, gender equity and changing conditions in rural Alaska also impact vocational program.

The study sought to shed light on these questions and issues by mining the rich information base that already exists regarding various components of the state's system and by supplementing this information, where necessary, with interviews from a broad cross-section of stakeholders in the system.

As will be seen in the following pages, not all of the questions were answered and none was answered fully. In part, this is a reflection of some fragmentation in the system, and of data collection/interpretation difficulties, both of which evidence tensions in the current situation. One the positive side, however, this difficulty also reflects a dynamism in the system which cannot be captured because it is not always institutionalized. Thus, for example, short-term, industry- or community-specific training is not always identified in catalogs of postsecondary institutions, nor considered in enrollment tallies. Secondary programs may offer training, use of equipment or expertise of instructors to the community at large, yet this service is not recorded in statewide statistics.

Nevertheless, the information available provides a compelling picture of the state's current capacity for workforce development. In the following discussion, strengths of the current system are noted, as well as areas on which policy makers should focus attention. To the extent possible, the report identifies trends—both internal and external—which impact the viability of the system and suggests areas for further discussion and analysis. The report concludes with recommendations from stakeholders concerning system improvement.

II. STATUS OF VOCATIONAL EDUCATION

What is vocational education?

A first step to detailing the state's system of vocational education is to determine what will be included. Department of Education regulations define secondary vocational education as "organized programs, approved by the department, for grades nine through twelve, that prepare individuals for paid or unpaid employment or for further education." (4 AAC 51.390). The American Vocational Association defines postsecondary vocational education as "the segment of education less than a baccalaureate degree charged with preparing people for work."

In an October, 1993, report, the Statewide Vocational Education Task Force of the University of Alaska, recommended that the University system define vocational/technical education as:

- all Associate of Applied Science (AAS) degree programs
- all related (AAS) certificate programs
- all occupational specific credit and non-credit preparation courses, certificates and degree programs
- subsistence programs related to self-sufficiency for living, where subsistence is the chosen life style over paid employment
- courses and programs designed for occupational certification and currency requirements
- industry-specific job training[1]

The Fairbanks North Star Borough School District, in a recent report, defined vocational education as "a series of connected educational programs which directly or indirectly prepare students for employment or prepare them for advanced study...that leads to employment."[2]

The federal Carl Perkins Vocational and Applied Technology Act, which provides funding for both secondary and postsecondary vocational programs, defines vocational education as:

> organized educational programs offering a sequence of courses which are directly related to the preparation of individuals in paid or unpaid employment in current or emerging occupations requiring other than a baccalaureate or advanced degree. Such programs shall include competency-based applied learning which contributes to a person's academic knowledge, higher-order reasoning and problem solving skills,

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[1] University of Alaska, *Statewide Office of Vocational and Technical Education*, program Review, October, 1993, no page number.

[2] Fairbanks North Star Borough School District, Vocational/Technical Education Advisory Council, *Vocational/Technical Education Programs*, December, 1996, p.1.

> and the occupational skills necessary for economic independence as a productive and contributing member of society[3].

None of the above definitions is without problems. For example, if the intent is job-related, is a computer applications course which teaches word-processing as part of an office occupations program considered "vocational" even though it enrolls a large number of college-bound students? Or, can a two-week course for Industry X be considered vocational education, even though it is not part of an organized program? What distinguishes "vocational" accounting at the AAS or certificate level from "professional" accounting at the BA level? Is woodshop, which teaches the use of tools, as "vocational" as electronics?

Given the problems inherent in any definition, the study chose to accept an institution's designation at face value; that is, if a public or private school, university campus, or other agency defined the program/course/activity as "vocational", it was accepted as such. Where this inclusiveness causes problems in analysis, it is noted.

Where is it offered?

Vocational education/training is offered in all parts of the state by a variety of public and private institutions.

Although some communities, such as Anchorage and Fairbanks, are for obvious reasons characterized by a greater breadth and scope of opportunity, most communities have some educational activity directed at workforce preparedness, either through the local public school district, an extended campus of the University system, Job Training and Partnership Act (JTPA) programs and/or private providers. In addition, the University system is expanding its distance delivery system. For the current academic year, two vocational programs are offered statewide through the University of Alaska Learning Cooperative: UAF's Human Service Technology Program and UAS's Business Information Systems Program. Both programs lead to an AAS degree and both utilize a variety of distribution methods, including audio and video tapes, radio and TV broadcast, electronic mail and Internet. UAS-Sitka also offers its AAS program in Environmental Technology statewide via distance education. As more programs are added to the system, vocational/technical education delivery will increasingly be freed from geographic and even time constraints.

The current system is described in some detail below by region. The regions chosen are those used by the Alaska Department of Labor in reporting labor force participation and unemployment. Department of Labor regions were chose because they allow the reader to compare information about vocational education opportunities and the overall economic situation of the particular region, using DOL data and reports. In this report, only employment figures from the regions have been used. The six regions are:

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[3] Carl D. Perkins Vocational and Applied Technology Act, Sec. 521 DEFINITIONS.

- Anchorage-Mat-Su
- Gulf Coast
- Interior
- Northern
- Southeast
- Southwest

Geographical Location

In the pages that follow, training opportunities in each region are listed by vocational program area and by level. Program areas used are those currently found in the Classification of Instruction Programs issued by the Alaska Department of Education, with one exception. Because of the limited number of programs in the classification "Media Products", activity in this area has been reported under the "Communications/Media" subsection of "Industrial Education".

This modified classification system, which is used throughout this report, is reproduced below:

- Natural Resources/Agriculture
- Business and Management
- Business and Office
- Marketing
- Family/Consumer Science
- Industrial Education
- Allied Health
- Applied Academics
- Work experience

For each region, subprograms under each of these classifications are indicated. For example, under Agriculture/Natural Resources, opportunities are listed in Agriculture, Fisheries, Forestry, Natural Resource Management, etc. Most of the classifications are self-explanatory. However, the area of Applied Academics may be unfamiliar to some readers. Basically, applied academics is an integration of occupational applications into standard academic classes. Applied Mathematics, for example, would teach basic mathematics principles by demonstrating applications of the principles to real work situations. Applied academics courses maintain high content standards, consistent with standards in the traditional academic programs. In a few instances, programs offered do not fall neatly into one of the above classifications. These exceptions are listed under "Other".

Training opportunities are listed by level. "Sec." refers to secondary level, grades 9 through 12. "Cert." indicates that a certificate is given at the postsecondary level. In general, certificate programs require one year of training. "AAS" indicates Associate of Applied Science, a two year degree offered by an accredited postsecondary institution. If no level is indicated for a program at a particular institution, then the training is short-term only or a full program leading to a certificate/degree is not offered.

Program listings were obtained from Department of Education records (secondary), college and university catalogs, the *Directory of Postsecondary Education* published by the Alaska Commission on Postsecondary Education, interviews and annual reports of various agencies. Efforts were made to make the regional listings as complete and comprehensive as possible. However, no doubt some agencies and/or programs have been inadvertently omitted, for which the author apologizes.

A synopsis of the various regions in terms of percentage of statewide population, workforce, employment, and secondary/postsecondary vocational enrollment, together with the current unemployment rate, is displayed in the following table.

Table 1: Regional Characteristics

Region	% population (est. 6/96)	% workforce (2/97)	% employment (2/97)	unemployment rate (2/97)	% Secondary enrollment 1995-96	% Postsec. enrollment 1995-96
Anchorage	50.2%	53.4%	54.3%	7.5%	44.8%	32.8%
Gulf Coast	11.7%	10.8%	10.1%	15.4%	16.2%	15.8%
Interior	15.9%	15.4%	15.1%	10.8%	14.9%	28.8%
Northern	3.7%	2.8%	2.8%	10.7%	5.3%	1.7%
Southeast	12.2%	12.7%	12.4%	11.1%	12.7%	17.9%
Southwest	6.2%	5.2%	5.3%	6.6%	6.1%	4.2%

Anchorage/Mat-Su Region

The largest in terms of population, this region, not surprisingly, has the richest variety of training available to its residents. The census areas included in the region are the Anchorage Borough and the Matanuska-Susitna Borough. Among its unique training resources are the King Career Center, operated by the Anchorage School District, the new Aviation Technology facility operated by the University of Alaska and the $20 million Job Corps Center in Palmer.

The region accounts for approximately 45% of the secondary course enrollment and nearly one-third of the public university enrollment. In addition, most of the privately-offered career education in the state is headquartered in Anchorage, as are many union apprenticeship program offices. The Alaska Operating Engineers operates a $5 million facility at Palmer which trains in heavy equipment operation.

The University of Alaska's major allied health training effort is centered at the Anchorage campus and has a statewide focus. UAA is also responsible for statewide delivery of a master's degree in vocational education. The statewide air traffic controller program, located at UAA, uses state-of-the-art equipment found no where else in the nation. Mat-Su Campus has statewide responsibility for associate degrees and certificates in refrigeration and heating.

Articulated agreements between UAA and the Anchorage School District have been in effect for many years, offering secondary students the opportunity to transition easily from high school to postsecondary training in seven program areas. Mat-Su has taken the leadership in the state's Tech Prep efforts, forging interagency agreements between the school district and UAA-Mat-Su. These agreements are detailed in the section on *Transition*, later in this report.

The region employs 156,423 persons, nearly 55 percent of the state's total employment. Its unemployment rate as of February 1, 1997 of 7.5 percent was the second lowest in the state after to the Southwest region. The following chart displays the regional training opportunities identified from documents and interviews.

ANCHORAGE/MAT-SU REGION

AG/NAT RES/ENVIRONMENT

Agriculture
Sec: Mat-Su
Sec: Anchorage

Natural Resources
Sec: Anchorage
Sec: Mat-Su

Wildlife Management
Sec: Anchorage

Misc. Nat. Resources
Sec: Anchorage

Hazardous Materials
Cert: Center for Employ. Ed
Cert: Environmental Mngt Inst

Marine-Coast Guard License
Compass North Nautical

BUSINESS

Accounting
Sec: Anchorage
AAS: UAA Anchorage
AAS: UAA-Mat-Su
AAS: Charter College
Cert: Job Corps Center
Cert: AK Computer Inst.

Bus. Mangt/Law
Sec: Anchorage
AAS: Charter College
AA: Alaska Pacific U
Cert: UAA Anchorage

OFFICE

Record/(Bookkeeping
Sec: Anchorage
Cert: Charter College

Computer Programming
Sec: Anchorage

Computer Applications
Sec: Anchorage
AAS: UAA Anchorage
Cert: UAA Mat Su

Computer Graphics
AAS: Charter College

Business Communication
Cert: UAA-Anchorage

General Clerical
Cert: UAA-Anchorage
Cert: UAA-Mat-Su
Cert: Job Corps Center

Office Mngt. and Tech
AAS: UAA-Anchorage
AAS: UAA Mat-Su
Cert: Charter College

Typing/Keyboarding
Sec: Anchorage

MARKETING

Marketing
Sec: Anchorage

Tourism
Sec: Anchorage
AA: Alaska Pacific U
Cert: Elite Hospitality

Travel
Career Academy
SST

Fashion Merchandising
Cert: UAA Anchorage
(under review)

Small Business Admin
AAS: UAA Anchorage
AAS: UAA Mat-Su

FAMILY/CONSUMER

General
Sec: Anchorage
Sec: Mat-Su

Child Care/Development
Sec: Anchorage
Sec: Mat-Su
AAS: UAA-Anchorage
Cert: UAA-Anchorage
Cert: Jobs Corps Center

Clothing/Design
Sec: Anchorage
Sec: Mat-Su

Life Skills
Sec: Mat-Su
Sec: Anchorage

Nutrition/Food
Sec: Mat-Su
Sec: Anchorage

Design/Home
Sec: Anchorage
Sec: Mat-Su

Culinary Arts
Sec: Anchorage
Sec: Mat-Su
AAS: UAA-Anchorage
Cert: Jobs Corps Center

INDUSTRIAL EDUCATION

Communications/Media
Sec: Anchorage
Sec: Mat-Su

Cosmetology
Sec: Anchorage
Cert: Cimarron Tech
Cert: Metroasis Center
Cert: Doubleheader
Cert: Jon Anthony
Cert: Northern Lights
Cert: Trend Setters
Cert: Head of Time
Cert: Valley Academy
(Wasilla)

Surveying
Sec: Anchorage

Geomatics
AAS: UAA-Anchorage

Electronics
Sec: Anchorage
Sec: Mat-Su
AAS: UAA-Anchorage
AAS: UAA-Mat-Su
Cert: UAA-Anchorage
Cert:-UAA-Mat-Su

Electrician
Cert: Jobs Corps Center

ANCHORAGE/MAT-SU REGION

OFFICE

Office Simulation
Sec: Anchorage

Legal secretary
Cert: UAA-Anchorage
Cert: UAA-Mat-Su

INDUSTRIAL EDUCATION

Principles of Tech/Shop
Sec: Anchorage
Sec: Mat-Su

Carpentry
Sec: Anchorage
Sec: Mat-Su
Cert: Jobs Corps Center

Painting
Cert: Jobs Corps Center

Building/Apt. Maintenance
Cert: Jobs Corps Center

Mechanics/Auto
Sec: Mat-Su
Sec: Anchorage
AAS: UAA-Anchorage
Cert: UAA-Anchorage
Cert: AK Technical

Mechanics/Diesel
AAS: UAA-Anchorage
Cert: UAA-Anchorage

Small Engines
Sec: Anchorage
Sec: Mat-Su
Cert: Cimarron Tech

INDUSTRIAL EDUCATION

Drafting
Sec: Anchorage
Cert: UAA-Anchorage
(Architectural, Civil
Engineering, Mechanical
& Electrical, Structural)
Cert: Charter College

Metals/Welding
Sec: Anchorage
Sec: Mat-Su
AAS: UAA-Anchorage
Cert: Testing Inst. of AK

Woodworking
Sec: Anchorage
Sec: Mat-Su

Boat Building/Marine Tech
Sec: Mat-Su

Misc. Advanced tech)
Sec: Anchorage

Aviation/Flight inst.
AAS: UAA-Anchorage
Cert: Aero Tech Flight
Cert: Anchorage Air Academy
Cert: Elmendorf Aero Club
Cert: Take Flight Alaska

Air Traffic Controller
AAS: UAA-Anchorage

INDUSTRIAL EDUCATION

Aircraft Dispatcher
Cert: Career Academy

Cargo Transport
Cert: Career Academy
Cert: SST

Aviation Maintenance
AAS: UAA-Anchorage
Cert: UAA-Anchorage

Aviation Administration
AAS: UAA-Anchorage

Refrigeration/Heating
AAS: UAA-Mat-Su
Cert: UAA-Mat-Su

Architect Engineer Tech
AAS: UAA-Anchorage

Fire Service Admin
AAS: UAA-Anchorage

Commercial Driving/Trucks
Cert: Center for Employ Ed

Heavy Equipment Operator
Cert: Jobs Corps Center

Water/Wastewater Treatment
Cert: Jobs Corps Center

ALLIED HEALTH

Health Occupations
Sec: Anchorage
Sec: Mat-Su
Cert: Jobs Corps Center

Dental Assistant
AAS: UAA Anchorage

Dental Hygienist
AAS: UAA-Anchorage

Medical Assistant
AAS: UAA-Anchorage
Cert: Career Academy

Nursing
AAS: UAA-Anchorage

Nurse Aid
Cert: Older Persons Act

Medical Lab Tech
AAS: UAA-Anchorage

Paramedic
AAS: UAA-Anchorage

Massage/Holistic Health
Cert: Gatekey School

Medical Office Management
AAS: Charter College
Cert: Charter College
Cert: AK Computer Inst

OTHER

Human Services technology
AAS: UAA-Anchorage
AAS: UAA-Anchorage

Paralegal Services
Cert: UAA-Anchorage

Apprenticeship Technology
AAS: Anchorage
AAS: Mat-Su

Bachelor of Science
Technology

Master's of Science
Vocational Education

APPLIED ACADEMICS

Communications
Sec: Anchorage
Sec: Mat-Su

Bio/Chem
Sec: Anchorage
Sec: Mat-Su

Mathematics
Sec: Anchorage
Sec: Mat-Su

WORK EXPERIENCE

Co-Op/OJT
Sec: Anchorage
Sec: Mat-Su

Apprenticeship
Ironworker
Inside/Outside Telephone
Inside Wireman
Lineman
Heavy Duty Mechanic
Operating Engineer
Sheet Metal Worker
Plumber
Pipefitter
Insulation Worker
Floor Coverer
Glazier
Painter
Roofer
Carpenter
Millwright
Laborer

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Gulf Coast Region

This region includes the census regions of Kenai Peninsula Borough, Kodiak Island Borough and Valdez-Cordova. The region accounts for approximately 16 percent of the state's secondary vocational education course enrollment, which ranks it second after the Anchorage/Mat-Su region.

Among the strengths of the vocational education system in the Gulf Coast region is the articulated secondary/postsecondary programs on the Kenai Peninsula which involve the school district, the Kenai Peninsula and Kachemak Bay campuses of the University of Alaska and the Alaska Vocational Technical Center (AVTEC) at Seward.

AVTEC is a major training resource for the region and the state. In addition to offering on-site programming in several occupational clusters, it provides off-site training to various industries around the state. It has worked extensively with communities involved in the Community Development Quota (CDQ) program, offering training in boat building, fishing methods and marine safety. AVTEC also provides classroom-related instruction for individual company apprenticeship programs and assists firms in meeting federal Bureau of Apprenticeship education requirements.

The region also includes Alaska's only community college, Prince William Sound, at Valdez. PWSCC offers several programs directly related to its location at the terminus of the Trans Alaska pipeline, in particular an annual Oil Spill Response and Readiness Symposium. Students may also obtain an Associate of Applied Science (AAS) degree in Oil Spill Response.

The Kenai Peninsula Campus at Soldotna has statewide responsibility for the university's certificate and associate degree programs in petroleum technology. Currently, the Kenai campus has an agreement with Sakhalin Island to provide petroleum exploration training for local residents. AVTEC provides additional certificate and short-term petroleum-related training.

The Gulf Coast region experiences the highest unemployment rate in Alaska: 15.4 percent as of February 1, 1997. Kenai Borough, at 18.4 percent unemployment, tops all Alaska census regions. The region employs 29,023 persons, just over 10 percent of the state's total employment.

Training opportunities found the region are displayed on the following chart.

GULF COAST REGION

AG/NATURAL RESOURCES

Agriculture

Sec: Kenai

Natural Resources

Sec: Kenai

Forest Tech

Cert: AVTEC

Fisheries/Hatcheries

Sec: Chugach
Cert: PWSCC
Cert: People Count
AVTEC

Wildlife Management

Sec: Kodiak

Marine-Coast Guard License

AVTEC

Marine Safety

AVTEC

Marine Electronics

AVTEC

Marine Refrigeration

Cert: AVTEC

BUSINESS

General Business

Sec: Valdez
AAS: UAA-Kodiak

Accounting

Sec: Kenai
Sec: Kodiak
Sec: Valdez

Misc. (Business Law, Management

Sec: Kodiak
Sec: Valdez

OFFICE

Record Keeping (Bookkeeping)

Sec: Valdez
Sec: Cordova
Sec: Kenai
Cert: UAA-Kodiak

Computer Applications

Sec: Chugach
Sec: Cordova
Sec: Kenai
Sec: Kodiak
Sec: Valdez
Cert: New Frontier
Cert: People Count

General Clerical

Cert: UAA-Kodiak
Cert: UAA-Kenai Pen
Cert: New Frontier

Business Communications

Sec: Kodiak
Sec: Cordova

Typing/Keyboarding

Sec: Chugach
Sec: Cordova
Sec: Kenai
Sec: Kodiak
Sec: Valdez

Office Simulation

Sec: Cordova
Sec: Chugach

MARKETING

Sec: Kenai

Sec: Valdez

Entrepreneurship/Small Business

Sec: Kenai

Small Business Management

AAS: UAA-Kenai Pen.
Cert: UAA-Kenai Pen.

Tourism

Sec: Kenai
Cert: New Frontier

FAMILY/CONSUMER

General

Sec: Cordova
Sec: Kenai
Sec: Unalaska
Sec: Valdez

Child Care/Development

Gulf

Sec: Chugach
Sec: Cordova
Sec: Kenai
Sec: Kodiak
Sec: Valdez
Cert: People Count

Clothing/Design

Sec: Chugach
Sec: Cordova
Sec: Valdez

Life Skills

Sec: Chugach
Sec: Cordova
Sec: Kenai
Sec: Kodiak
Sec: Valdez

Nutrition/Food

Sec: Chugach
Sec: Cordova
Sec: Kenai
Sec: Kodiak
Sec: Valdez

INDUSTRIAL ED

Communications/Media

Sec: Cordova
Sec: Kenai
Sec: Valdez
AAS: PWSCC
Cert: PWSCC

Cosmetology

Jon Anthony
Renew U Design

Electronics

Sec: Kenai
Sec: Kodiak

Computer Electronics

AAS: UAA-Kenai Pen

Industrial Electrical Maint

Cert: AVTEC

Principles of Tech/Shop

Sec: Chugach
Sec: Cordova
Sec: Kenai
Sec: Kodiak
Sec: Valdez

Industrial Tech

AAS: PWSCC

GULF COAST REGION

OFFICE

Office Management/Tech
AAS: PWSCC
AAS: UAA-Kodiak
AAS: UAA-Kenai Pen.
AAS: Kachemak Bay

Cert: PWSCC
Cert: AVTEC

Legal Office Assistant
Cert: AVTEC

FAMILY/CONSUMER

Home
Sec: Kenai
Sec: Valdez

Food Service (Comm)
Sec: Kodiak
Cert: People Count
Cert: AVTEC

Baker
Cert: AVTEC

INDUSTRIAL ED

Building
Sec: Cordova
Sec: Kenai
Sec: Valdez

Mechanics/Auto
Sec: Cordova
Sec: Kenai
Sec: Kodiak
Sec: Valdez
Cert: People Count
Cert: AVTEC
AAS: Kachemak Bay

I/M of Emission Systems
AVTEC

Heavy Equip Mechanics
Cert: AVTEC

Diesel
Cert: AVTEC
AAS: Kachemak Bay

Small Engines
Sec: Valdez

AAS: Kachemak Bay

Mechanical Tech
Cert: UAA-Kenai Pen

Facility Maintenance
Cert: AVTEC

INDUSTRIAL ED

HVAC and Air-conditioning
Cert: AVTEC

Drafting
Sec: Kenai
Sec: Kodiak
Mat-Su
Sec: Valdez

Metals/Welding
Sec: Cordova
Sec: Kenai
Sec: Kodiak
Sec: Valdez
Cert: UAA-Kenai Pen.
Cert: AVTEC
AAS: Kachemak Bay

Pipewelding
Cert: AVTEC

Petroleum Technical
AAS: UAA-Kenai Pen
Cert: UAA-Kenai Pen

Petro Engineering Aide
ASS: UAA-Kenai Pen.

Well Control Rig/H2S Safety
AVTEC

INDUSTRIAL ED

Woodworking
Sec: Chugach
Sec: Kenai
Sec: Valdez
UAA-Kachemak Bay

Boat Building/Marine Tech
Sec: Kenai
Sec: Kodiak
Sec: Valdez
Cert: AVTEC

Power Plant Operation
Cert: AVTEC

Aviation
AK Flying Network
UAA-Kenai
UAA-Kachemak Bay

Misc. (Advanced tech)
Sec: Kenai

Industrial Process Instrument.
AAS: UAA-Kenai Pen

ALLIED HEALTH

Health Occupations
Sec: Kenai

Developmental Disabilities
AAS: PWSCC
Cert: PWSCC

Medical Office Assistant
Cert: AVTEC

Emergency Medical
Cert: AVTEC

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GULF COAST REGION

OTHER

Human Services Tech.
AAS: PWSCC

Apprenticeship Technology
AAS: UAA-Kenai
AAS: UAA-Kachemak Bay
AAS: UAA-Kodiak

APPLIED ACADEMICS

Communications
Sec: Kenai
Sec: Valdez

Bio/Chem
Sec: Kenai

Mathematics
Sec: Cordova
Sec: Kenai

WORK EXPERIENCE

Sec: Chugach
Sec: Cordova
Sec: Sec: Kenai
Sec: Kodiak
Sec: Valdez

School-to-Apprenticeship
Sec: Kenai

Interior Region

The Interior Region includes the census areas of Fairbanks North Star Borough, Southeast Fairbanks and Yukon Koyukuk. It accounts for about 15 percent of the state's secondary vocational education enrollment and one-fourth of postsecondary enrollment. Total secondary vocational program size ranges from 3,902 course hours at Fairbanks to 34 at Denali. The school districts in the region include some of the most geographically-disbursed Regional Education Attendance Areas, such as Yukon-Koyukuk, Yukon Flats and Iditarod.

At the public postsecondary level, Tanana Valley (TVC) assumed the responsibilities of the School for Career and Continuing Education at the University of Alaska-Fairbanks, on July 1, 1992. As such, it is the Fairbanks campus' main unit for promoting, coordinating and delivering vocational-technical career training. TVC spearheaded a consortium of secondary vocational education program in the Interior, which provided technical assistance and program articulation for school districts in the region. The consortium has evolved into a regional vocational technical program centered at Galena.

UAF College of Rural Alaska operates additional training programs through the Interior Campus, which has centers in Ft. Yukon, McGrath and Tok. Courses at the Interior Campus sites are offered by distance delivery, itinerant instructors and correspondence as well as limited on-site instruction. The region also has several private career education programs as well as two regional union apprenticeship programs.

The region's unemployment rate in February, 1997, stood at 10.8 percent. It has the second largest employed work force of the regions: 43,506 or a little more than 15 percent of the state's total employment.

INTERIOR REGION

AG/NATURAL RESOURCES

Agriculture

Sec: Delta/Greely
Sec: Fairbanks

Natural Resources

Sec: Delta/Greely
Sec: Fairbanks
Sec: Iditarod
Sec: Yukon-Koyukuk

Fisheries/Hatcheries

Sec: Fairbanks
Sec: Yukon-Koyukuk

Forestry

Sec: Fairbanks

Wildlife Management

Sec: AK Gateway

Renewable resources

AAS: UAF-Interior

Misc. Nat. Resources

Sec: Fairbanks
Sec: Iditarod

BUSINESS

General Business

Sec: Fairbanks
Sec: Galena
Sec: Kuspuk
AAS: UAF-TVC
Interior

Accounting

Sec: AK Gateway
Sec: Delta/Greely
Sec: Fairbanks
Sec: Galena
Sec: Kuspuk
Sec: Yukon-Koyukuk
Sec: Copper River
AAS: UAF-TVC
Cert: AK Computer Instit.

Misc. (Business Law, Management

Sec: Delta/Greely
Sec: Iditarod

OFFICE

Record Keeping (Bookkeeping)

Sec: Fairbanks
Sec: Iditarod
Sec: Kuspuk
Sec: Yukon Flats

Computer Applications

Sec: Delta/Greely
Sec: Denali
Sec: Fairbanks
Sec: Galena
Sec: Iditarod
Sec: Kuspuk
Sec: AK Gateway
Sec: Copper River
Sec: Nenana
Sec: Yukon Flats
Sec: Yukon-Koyukuk
Cert: AK Computer Institute
UAF-TVC
UAF-Interior

Business Communications

Sec: Fairbanks
Sec: Kuspuk
Sec: Yukon Flats
Sec: Yukon-Koyukuk

Typing/Keyboarding

Sec: AK Gateway
Sec: Delta/Greely

MARKETING

Marketing

Sec: Kuspuk
Sec: Nenana

Entrepreunership/Small Business

Sec: Delta/Greely
Sec: Fairbanks
Sec: Iditarod
Sec: AK Gateway
Sec: Kuspuk
Sec: Tanana City
Sec: Yukon Flats
Sec: Yukon-Koyukuk

Tourism

Sec: Fairbanks

FAMILY/CONSUMER

General

Sec: Delta/Greely
Sec: Kuspuk
Sec: Yukon Flats
Sec: Copper River

Child Care/Development

Sec: AK Gateway
Sec: Fairbanks
Sec: Kuspuk
Sec: Yukon Flats
Sec: Yukon-Koyukuk
AAS: UAF-TVC
Cert: UAF-TVC
UAF-Interior

Clothing/Design

Sec: AK Gateway
Sec: Fairbanks
Sec: Galena
Sec: Kuspuk
Sec: Yukon Flats
Sec: Yukon-Koyukuk

Life Skills

Sec: AK Gateway
Sec: Delta/Greely
Sec: Fairbanks
Sec: Galena
Sec: Iditarod

INDUSTRIAL EDUCATION

Communications/Media

Sec: AK Gateway
Sec: Delta/Greely
Sec: Fairbanks
Sec: Iditarod
Sec: Nenana
Sec: Copper River
Sec: Tanana City
Sec: Yukon Flats
Sec: Yukon-Koyukuk

Cosmetology

Cert: CB & Co
Cert: New Concepts
Cert: Team Cutters

Electronics

Sec: AK Gateway
Sec: Fairbanks
Sec: Iditarod

Principles of Tech/Shop

Sec: Delta/Greely
Sec: Fairbanks
Sec: Iditarod
Sec: AK Gateway
Sec: Yukon-Koyukuk
Sec: Copper River

INTERIOR REGION

OFFICE

Typing/Keyboarding (cont.)
Sec: Fairbanks
Sec: Iditarod
Sec: Nenana
Sec: Tanana City
Sec: Yukon Flats
Sec: Yukon-Koyukuk

Office Simulation
Sec: AK Gateway
Sec: Delta/Greely
Sec: Fairbanks
Sec: Iditarod
Sec: Kuspuk
North Slope Borough
Sec: Yukon-Koyukuk
Sec: Copper River

Office Occupations
Cert: Hutchinson Career Center

Office management/tech
AAS: UAF-TVC
UAF-Interior
Cert: UAF-TVC
UAF-Interior

FAMILY/CONSUMER

Life Skills (cont.)
Sec: Kuspuk
Sec: Copper River
Sec: Yukon Flats
Sec: Yukon-Koyukuk

Nutrition/Food
Sec: AK Gateway
Sec: Fairbanks
Sec: Galena
Sec: Iditarod
Sec: Kuspuk
North Slope Borough
Sec: Yukon Flats
Sec: Yukon-Koyukuk

Home
Sec: Fairbanks

Culinary Arts
Sec: Delta/Greely
AAS: UAF-TVC
Cert: UAF-TVC
UAF-Interior

INDUSTRIAL EDUCATION

Construction
Sec: Fairbanks
Sec: Galena
Sec: Iditarod
Sec: Kuspuk
North Slope Borough
Sec: Yukon Flats
Sec: Yukon-Koyukuk
Sec: Copper River
Cert: Hutchinson Career

Mechanics/Auto
Sec: AK Gateway
Sec: Fairbanks
Sec: Iditarod
Sec: Kuspuk
Sec: Nenana
Sec: Yukon Flats
Sec: Copper River
Cert: Hutchinson Career

Small Engines
Sec: Fairbanks
Sec: Galena
Sec: Iditarod
Sec: Kuspuk
Sec: Nenana
Sec: Yukon Flats
Sec: Yukon-Koyukuk
Sec: Copper River
Cert: Hutchinson Career

INDUSTRIAL EDUCATION

Drafting
Sec: AK Gateway
Sec: Delta/Greely
Sec: Fairbanks
Sec: Galena
Sec: Iditarod
Sec: Kuspuk
Sec: Yukon Flats
Sec: Yukon-Koyukuk
Sec: Copper River
Sec: NW Arctic
Cert: UAF-TVC
Cert: Hutchinson

Power Plant Operation
Cert: UAF-TVC
UAF-Interior

Metals/Welding
Sec: AK Gateway
Sec: Delta/Greely
Sec: Fairbanks
Sec: Galena
Sec: Iditarod
Sec: Kuspuk
Sec: Nenana
Sec: Yukon Flats
Sec: Yukon-Koyukuk
Sec: Copper River
UAF-TVC
UAF-Interior

INDUSTRIAL EDUCATION

Woodworking
Sec: AK Gateway
Sec: Delta/Greely
Sec: Fairbanks
Sec: Galena
Sec: Iditarod
Sec: Kuspuk
Sec: Nenana
Sec: Yukon Flats
Sec: Yukon-Koyukuk
Sec: Copper River

Boat Building/Marine Tech
Sec: Iditarod

Aviation
Sec: Fairbanks
AAS: UAF-TVC
Cert: UAF-TVC
Interior

Airframe/Powerplant
AAS-UAF-TVC
Cert: UAF-TVC

Fire Science
AAS: UAF-TVC
Cert: UAF-TVC
UAF-Interior

Diesel Mechanics
Cert: UAF-TVC
UAF-Interior

HEALTH

Health Occupations
Sec: Fairbanks

EMT
UAF-TVC
UAF-Interior

Massage/Holistic
Sch. of Integrated Shiatsu

Community Heath Prac.
AAS: UAF-TVC
AAS: UAF-Interior

Medical Office Spec.
Cert: AK Computer Inst

INTERIOR REGION

OTHER

Humans Services Tech
AAS: UAF-TVC

Rural Human Services
Cert: UAF-Interior

Paralegal
AAS: UAF-TVC

APPLIED ACADEMICS

Communications
Sec: Yukon-Koyukuk

Bio/Chem
Sec: Fairbanks

Mathematics
Sec: Delta/Greely
Sec: Fairbanks
Sec: Iditarod
Sec: Yukon-Koyukuk
Sec: Copper River

WORKEXPERIENCE

Sec: Delta/Greely
Sec: Fairbanks
Sec: Galena
Sec: Iditarod
Sec: Kuspuk
Sec: Nenana
Sec: Yukon-Koyukuk

Apprenticeship
Plumber
Pipefitter
Sheet metal
Carpentry
Electrical
Painting and Allied Trades
Laborer

Northern Region

This region encompasses the census districts of Nome, North Slope Borough and Northwest Arctic Borough.

The region is the smallest of the six with respect to secondary vocational education course enrollment, accounting for a little more than 5 percent of total enrollment. Its employed labor force of 7,986 is also the smallest of the regions, and represents under 3 percent of the state's total. The unemployment rate of 10.7 percent is the third lowest in the state, after the Southwest and Anchorage areas. The region's economy is resource-extraction based and includes the Red Dog mine near Kotzebue as well as Prudhoe Bay.

The region is served by three public postsecondary institutions: Chukchi Campus and the Alaska Technical Center (ATI) in Kotzebue and Ilisagvik College in Barrow, all of which offer outreach programs to the surrounding villages.

ATI has a close relationship with COMINCO, the operators of the Red Dog mine and the largest employers in the region. Ilisagvik College serves the occupation needs of the North Slope Borough and assists the borough's subcontractors to increase local hires.

Training opportunities found in the region are presented in the following pages.

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NORTHERN REGION

AG/NATURAL RESOURCES

Fisheries/Hatcheries

Sec: Bering Strait
Sec: NW Arctic

Wildlife Management

Sec: NW Arctic

Misc. Nat. Resources

Sec: NW Arctic
Sec: Nome

Renewable Resources

AAS: UAF-Chukchi
AAS: UAF-Northwest

BUSINESS

General Business

Sec: Bering Strait

Accounting

Sec: Bering Strait
Sec: Nome
Sec: NW Arctic
Sec: North Slope
Cert: AK Tech Center

Applied Business

AAS: UAF-Northwest
Cert: UAF-Northwest
UAF-Chukchi

OFFICE

Record Keeping (Bookkeeping)

Sec: Bering Strait

Computer Applications

Sec: Bering Strait
Sec: NW Arctic
Sec: North Slope
Sec: Bering Strait
Sec: NW Arctic

Typing/Keyboarding

Sec: Bering Strait
Sec: Nome
Sec: NW Arctic
Sec: North Slope

Office Simulation

Sec: NW Arctic

General Clerical

Cert: AK Technical Center

Secretarial

Cert: AK Technical Center

Office Management/Technology

AAS: UAF-Northwest
UAF-Chukchi

MARKETING

Marketing

Sec: Bering Strait

Entrepreunership/Small Business

Sec: Bering Strait
Sec: NW Arctic

Tourism

Sec: Bering Strait

FAMILY/CONSUMER

General

Sec: NW Arctic

Child Care/Development

Sec: Bering Strait
Sec: Nome
Sec: NW Arctic
Sec: North Slope

Clothing/Design

Sec: Nome
Sec: North Slope

Life Skills

Sec: Bering Strait
Sec: Nome
Sec: NW Arctic
Sec: North Slope

Nutrition/Food

Sec: Bering Strait
Sec: Nome

INDUSTRIAL EDUCATION

Communications/Media

Sec: Bering Strait
Sec: Nome
Sec: NW Arctic

Sec: North Slope

Cosmetology

Sec: North Slope
Cert: Ilisagvik College

Electronics

Northwest

Sec: Bering Strait

Principles of Tech/Shop

Sec: Bering Strait
Sec: NW Arctic
Sec: North Slope

Construction

Sec: Bering Strait
Sec: Nome
AAS: Ilisagvik Collage
Cert: AK Tech Center

Plumbing

AAS: Ilisagvak
Cert: AK Tech Center

NORTHERN REGION

INDUSTRIAL EDUCATION

Electrical
AAS: Ilisagvak College
Cert: AK Tech Center

Heating
Cert: AK Tech Center

Power Plant Op
Ilisagvak College

Mechanics/Auto
Sec: Bering Strait
Sec: NW Arctic
AAS: Ilisagvak
Cert: Ilisagvak

Heavy Machinery Mech
AAS: Ilisagvak College

Small Engines
Sec: Nome

Metals/Welding
Sec: Bering Strait
Sec: Nome
Sec: NW Arctic
Cert: Ilisagvak
AAS: Ilisagvak

INDUSTRIAL EDUCATION

Woodworking
Sec: Bering Strait
Sec: Nome
Sec: NW Arctic

Water/Wastewater
AAST: Ilisagvak College

Occupational Safety
Ilisagvak College

HEALTH

Health Occupations
Sec: Nome
AK tech Center

Community Health
AAS: UAF-Bristol Bay
AAS: UAF-Northwest

Certified Nurse Asst.
Cert: AK Tech Center

EMS
UAF-Chukchi
UAF-Northwest

Medical Terminology
AK Tech Center

OTHER

Human Service tech.
UAF-Chukchi
UAF-Northern

APPLIED ACADEMICS

WORKEXPERIENCE

Sec: Bering Strait
Sec: Nome
Sec: NW Arctic

Southeast Region

The Southeast Region includes the following census areas: Haines Borough, Juneau Borough, Ketchikan Gateway Borough, Prince of Wales, Sitka Borough, Skagway-Yakutat-Angoon and Wrangell-Petersburg. The region accounts for about 13 percent of the secondary vocational education course enrollment.

Among the programs offered in the region are those through the Sitka Education Consortium, which involves joint program planning and shared resources among four institutions: Sitka School District, the University of Alaska Southeast Sitka Campus, Mt. Edgecumbe High School and Sheldon Jackson College. The consortium offers articulated programs in health occupations, public safety, early childhood education and rural sanitation. Other training resources include the Juneau and Ketchikan campuses of UAS and the Southeast Regional Resource Center (the Alaska Vocational Institute).

The region's employed work force of 35,792 represents around 13 percent of the state's total. Its unemployment rate of 11.1 percent is the second highest in the state, due in part to the precipitous decline in forest-related harvesting and processing employment. Assistance for displaced forestry workers provides a major challenge for the vocational training delivery system of the region. Transition centers in Sitka and Ketchikan for workers affected by mill closings represent a cooperative effort of the University system, private institutions, JTPA and the local communities.

SOUTHEAST REGION

AG/NATURAL RESOURCES

Fisheries/ Hatcheries

Sec: Chatham
Sec: Craig
Sec: Haines
Sec: Hydaburg
Sec: Kake
Sec: Ketchikan
Sec: Pelican
Sec: Petersburg
Sec: Skagway
Sec: Yakutat
Cert: Sheldon Jack
AAS: Sheldon Jack
STEP: Roe Training

Forestry

Sec: Kake
AAS: Sheldon Jack
Cert: Sheldon Jack

Nat'l Resource Mngt

AAS: Sheldon Jack

Environmental Technology

AAS: UAS-Sitka

BUSINESS

General Business

Sec: Annette
Sec: Chatham
Sec: Hydaburg
Sec: Juneau
Sec: Ketchikan
Sec: Klawock
Sec: Southeast
Sec: Wrangell

Accounting

Sec: Chatham
Sec: Craig
Sec: Haines
Sec: Hoonah
Sec: Juneau
Sec: Ketchikan
Sec: Petersburg
Sec: Sitka
Sec: Southeast
Sec: Wrangell
Cert: UAS-Juneau
Cert: UAS-Ketchikan
Cert: UAS-Sitka

Business Administration

AAS: UAS-Juneau
AAS: UAS-Ketchikan
AAS: Sheldon Jack
Cert: Sheldon Jackson

Business Operations

Cert: Sheldon Jackson

OFFICE

Record Keeping (Bookkeeping)

Sec: Haines
Sec: Hoonah
Sec: Juneau
Sec: Kake
Sec: Sitka
Sec: Yakutat

Computer App

Sec: Annette
Sec: Chatham
Sec: Craig
Sec: Haines
Sec: Hoonah
Sec: Hydaburg
Sec: Juneau
Sec: Kake
Sec: Klawock
Sec: Mt. Edgecumbe
Sec: Pelican
Sec: Petersburg
Sec: Sitka
Sec: Skagway
Sec: Southeast
Sec: Wrangell
Cert: AK Vocational Inst

Bus Info Systems

AAS: UAS-Juneau
AAS: UAS-Ketchikan
AAS: UAS-Sitka
Cert: UAS-Juneau
Cert: UAS-Ketchikan

MARKETING

Marketing

Sec: Juneau
Sec: Sitka

Entrepreneurship

Sec: Craig
Sec: Juneau
Sec: Ketchikan
Sec: Mt. Edgecumbe
Sec: Sitka
Sec: Southeast
Sec: Wrangell

Tourism

Sec: Craig
Sec: Juneau
Sec: Sitka
Sec: Southeast
Cert: AK Voc Institute

Hospitality Mngt

AAS: UAS-Juneau
AAS: UAS-Ketchikan
Cert: UAS-Ketchikan

Travel

AAS: UAS-Juneau
AAS: UAS-Ketchikan
Cert: UAS-Ketchikan

FAMILY/CONSUMER

General

Sec: Craig
Sec: Haines
Sec: Hoonah
Sec: Hydaburg
Sec: Klawock
Sec: Sitka
Sec: Southeast
Sec: Wrangell

Child Care/Dvlp

Sec: Annette
Sec: Chatham
Sec: Craig
Sec: Haines
Sec: Hydaburg
Sec: Ketchikan
Sec: Mt. Edgecumbe
Sec: Sitka
AAS: UAS-Juneau
Cert: UAS-Juneau
Cert: AK Voc Instit

Clothing/Design

Sec: Chatham
Sec: Juneau
Sec: Petersburg
Sec: Sitka

Life Skills

Sec: Annette
Sec: Haines
Sec: Hoonah

INDUSTRIAL EDUCATION

Communications/Media

Sec: Chatham
Sec: Haines
Sec: Hoonah
Sec: Juneau
Sec: Mt. Edgecumbe
Sec: Skagway
Sec: Wrangell
Sec: Yakutat

Cosmetology

Cert: Grand Illusions

Surveying

Sec: Petersburg
Sec: Juneau

Electronics

Sec: Mt. Edgecumbe
Sec: Sitka

Principles of Tech

Sec: Annette
Sec: Hoonah
Sec: Juneau
Sec: Sitka
Sec: Southeast
Sec: Wrangell
Sec: Yakutat

Construction

Sec: Chatham
Sec: Craig

SOUTHEAST REGION

BUSINESS
Business Operations (cont.)
AAS: Sheldon Jackson

Bus. Law, Mngt
Sec: Annette
Sec: Haines
Sec: Juneau
Sec: Mt. Edgecumbe

OFFICE
Bus Info Systems (cont.)
Cert: UAS-Sitka

Business Comm
Sec: Hydaburg
Sec: Juneau
Sec: Sitka
Sec: Juneau

Keyboarding
Sec: Chatham
Sec: Hydaburg
Sec: Juneau
Sec: Kake
Sec: Ketchikan
Sec: Pelican
Sec: Petersburg
Sec: Sitka
Sec: Southeast
Sec: Wrangell

Office Simulation
Sec: Annette
Sec: Craig
Sec: Haines
Sec: Hoonah
Sec: Juneau

FAMILY/CONSUMER
Life Skills (con's)
Sec: Juneau
Sec: Ketchikan
Sec: Mt. Edgecumbe
Sec: Petersburg
Sec: Sitka
Sec: Skagway
Sec: Wrangell

Nutrition/Food
Sec: Chatham
Sec: Haines
Sec: Hoonah
Sec: Juneau
Sec: Kake
Sec: Petersburg
Sec: Sitka
Sec: Skagway
Sec: Wrangell

Design/Home
Sec: Haines
Sec: Juneau
Sec: Sitka

Commercial
Sec: Annette

INDUSTRIAL EDUCATION
Construction (cont.)
Sec: Haines
Sec: Hydaburg
Sec: Juneau
Sec: Kake
Sec: Ketchikan
Sec: Klawock
Sec: Skagway
Sec: Southeast
Sec: Yakutat
AAS: UAS-Juneau
Cert: UAS-Juneau

Mechanics/Auto
Sec: Annette
Sec: Haines
Sec: Hoonah
Sec: Juneau
Sec: Kake
Sec: Ketchikan
Sec: Klawock
Sec: Sitka
Sec: Southeast
Sec: Wrangell
Sec: Yakutat
Cert: UAS-Juneau

INDUSTRIAL ED
Diesel Mechanics
Cert: UAS-Juneau

Power Mechanics
AAS: UAS-Juneau

Small Engines
Sec: Annette
Sec: Chatham
Sec: Haines
Sec: Hydaburg
Sec: Juneau
Sec: Kake
Sec: Sitka
Sec: Southeast
Sec: Yakutat

Drafting
Sec: Annette
Sec: Chatham
Sec: Haines
Sec: Hoonah
Sec: Juneau
Sec: Ketchikan
Sec: Sitka
Sec: Southeast

INDUSTRIAL ED
Metals/Welding
Sec: Annette
Sec: Chatham
Sec: Craig
Sec: Haines
Sec: Hydaburg
Sec: Juneau
Sec: Kake
Sec: Klawock
Sec: Petersburg
Sec: Sitka
Sec: Wrangell

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SOUTHEAST REGION

OFFICE

Office Simulation (cont.)

Sec: Kake
Sec: Ketchikan
Sec: Petersburg
Sec: Sitka
Sec: Skagway
Sec: Wrangell
Sec: Yakutat

Office Mngt/Tech

AK Voc Institute

FAMILY/CONSUMER

Commercial (cont.)

Sec: Haines
Sec: Juneau

INDUSTRIAL ED

Diesel Mechanics

Cert: UAS-Juneau

Power Mechanics

AAS: UAS-Juneau

Small Engines

Sec: Annette
Sec: Chatham
Sec: Haines
Sec: Hydaburg
Sec: Juneau
Sec: Kake
Sec: Sitka
Sec: Southeast
Sec: Yakutat

Drafting

Sec: Annette
Sec: Chatham
Sec: Haines
Sec: Hoonah
Sec: Juneau
Sec: Ketchikan
Sec: Sitka
Sec: Southeast

INDUSTRIAL ED

Metals/Welding

Sec: Annette
Sec: Chatham
Sec: Craig
Sec: Haines
Sec: Hydaburg
Sec: Juneau
Sec: Kake
Sec: Klawock
Sec: Petersburg
Sec: Sitka
Sec: Wrangell

ALLIED HEALTH

Health

Sec: Mt. Edgecumbe
Sec: Sitka

Health Info Systems

AAS: UAS-Sitka

Nurse Aide

Cert: AK Voc Instit

OTHER

Law Enforcement

Cert: UAS-Sitka
Public Safety Academy

Paralegal

AAS: UAS-Juneau

Apprenticeship Technology

AAS: UAS-Juneau
AAS: UAS-Ketchikan
AAS: UAS-Sitka

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APPLIED ACADEMICS

Communications

Sec: Annette
Sec: Juneau

Bio/Chem

Sec: Hoonah

Mathematics

Sec: Annette
Sec: Hoonah
Sec: Sitka
Sec: Skagway
Sec: Wrangell

WORK EXPERIENCE

Sec: Chatham
Sec: Sec: Craig
Sec: Haines
Sec: Hydaburg
Sec: Juneau
Sec: Klawock
Sec: Petersburg
Sec: Sitka
Sec: Skagway
Sec: Southeast
Sec: Wrangell
Sec: Yakutat

School -to-Apprenticeship

Sec: Juneau
Sec: Ketchikan

Southwest Region

The final region of the state includes the census areas of Aleutian Islands, Bethel, Bristol Bay Borough, Dillingham and Wade Hampton. It accounts for slightly more than 6 percent of the state's total secondary vocational education course enrollment.

Active tech prep, School to Work and other articulated programs between secondary and postsecondary institutions characterize the Bethel area, where the Lower Kuskokwim School District partners with the Kuskokwim Campus of UAF. The Bristol Bay Campus provides degree and certificate training for the southern part of the area.

The region's employed labor force of 15,266 is the second smallest in the state, accounting for 5.3 percent of total Alaskan employment in February, 1997. The unemployment rate is 6.6%, the lowest of any census region. However, rates within the region range from 1.6 percent in the Aleutians East Borough to 11.4 percent in Bristol Bay and 10.6 percent in Wade Hampton.

Fisheries-related employment characterizes the region, leading to significant seasonality in some areas. The region's year-around economy has been given a recent boost with the introduction of the Community Development Quotas for certain species of fish. CDQ partnerships between processors and local communities has opened short-term training opportunities for local residents in some areas..

The training opportunities available in the region are detailed on the following chart.

SOUTHWEST REGION

AG/NATURAL RESOURCES

Fisheries/Hatcheries

Sec: Lower Yukon
Sec: Aleutian Region
Sec: Aleutian East

Sec: Dillingham
Sec: Lake and Pen
Sec: Unalaska
STEP: Yukon/Delta Fisheries
STEP: Coastal Villages CDQ

Wildlife Management

Sec: Lake and Pen

Misc. Nat. Resources

Sec: Lower Kuskokwim

Renewable Resources

AAS: UAF-Bristol Bay
AAS: UAF-Kuskokwim

BUSINESS

General Business

Sec: Lower Kuskokwim
Sec: Lower Yukon
Sec: Aleutian Region

Sec: Aleutian East
AAS: UAF-Bristol Bay
AAS, UAF-Kuskokwim

Accounting

Sec: Lower Kuskokwim
Sec: Lower Yukon
Sec: Aleutian East
Sec: Bristol Bay

Misc. (Business Law, Management

Sec: Southwest Region
Sec: Dillingham

OFFICE

Record Keeping (Bookkeeping)

Sec: Lower Kuskokwim
Sec: Lower Yukon
Sec: St. Mary's

Sec: Kashunamiut
Sec: Unalaska
Sec: Aleutian East

Computer Applications

Sec: Lower Kuskokwim
Sec: Lower Yukon
Sec: Kashunamiut
Sec: St. Mary's
Sec: Yupiit
Sec: Aleutian Region

Sec: Aleutian East
Sec: Bristol Bay
Sec: Dillingham
Sec: Pribilofs
UAF-Bristol Bay

UAF-Kuskokwim

Business Communications

Sec: Dillingham

Typing/Keyboarding

Sec: Lower Kuskokwim
Sec: Lower Yukon
Sec: Yupiit
Sec: Aleutian Region
Sec: Bristol Bay
Sec: Dillingham

MARKETING

Marketing

Sec: Lower Yukon

Entrepreneurship/Small Business

Sec. St. Mary's
Sec. Aleutian Region
Sec. Aleutian East

FAMILY/CONSUMER

General

Sec: Lower Kuskokwim
Sec: Lower Yukon
Sec: Southwest Region

Sec: Yupiit
Sec: Aleutian Region
Sec: Aleutian East
Sec: Bristol Bay

Child Care/Development

Sec: Dillingham
Sec: Lower Kuskokwim
Sec: Lower Yukon
Sec: Southwest Region
Sec: St. Mary's

Sec: Aleutian East
Sec: Lake and Pen
AAS: UAF-Bristol Bay
AAS: UAF-Kuskokwim

Clothing/Design

Sec: Dillingham

Sec: Lower Kuskokwim
Sec: Lower Yukon
Sec: Lake and Pen

Life Skills

Sec: Dillingham
Sec: Lower Kuskokwim
Sec: Southwest Region
Sec: St. Mary's
Sec: Aleutian Region
Sec: Bristol Bay

INDUSTRIAL ED

Communications/Media

Sec: Kashunamiut
Sec: Lower Kuskokwim
Sec: Lower Yukon

Sec: Lake and Pen

Electronics

Sec: Lower Kuskokwim

Principles of Tech/Shop

Sec: Dillingham
Sec: Kashunamiut
Sec: Lower Kuskokwim
Sec: Southwest Region
Sec: Pribilofs

Sec: Unalaska

Building

Sec: Dillingham
Sec: Kashunamiut

Sec: Lower Kuskokwim
Sec: Lower Yukon

Sec: St. Mary's
Sec: Yupiit
Sec: Aleutian Region
Sec: Aleutian East
Sec: Bristol Bay
Sec: Lake and Pen
Sec: Unalaska

Mechanics/Auto

Sec: Dillingham
Sec: Lower Kuskokwim

SOUTHWEST REGION

OFFICE

Office Simulation
Sec: Lower Kuskokwim
Sec: Lower Yukon
Sec: St. Mary's
Sec: Yupiit
Sec: Dillingham
Sec: Aleutian East
Sec: Bristol Bay
Sec: Lake and Pen

Office Mangt/Technology
AAS-UAF-Bristol Bay
AAS: UAF-Kuskokwim

FAMILY/CONSUMER

Nutrition/Food
Sec: Dillingham
Sec: Lower Kuskokwim
Sec: Southwest Region
Sec: Aleutian Region
Sec: Lake and Pen

Home
Sec: Dillingham
Sec: Yupiit
Commercial (food)
Sec: Kashunamiut
Sec: Lower Kuskokwim

INDUSTRIAL ED

Sec: Lower Yukon
Sec: Aleutian East
Sec: Lake and Pen
Sec: Pribilofs

Small Engines
Sec: Dillingham
Sec: Lower Kuskokwim
Sec: Lower Yukon
Sec: St. Mary's

Sec: Aleutian East
Sec: Aleutian Region
Sec: Bristol Bay
Sec: Lake and Pen

Drafting
Sec: Dillingham
Sec: Kashunamiut
Sec: Lower Kuskokwim
Sec: Lower Yukon
Sec: Yupiit
Sec: Bristol Bay
Sec: Unalaska
Sec: Lake and Pen

Metals/Welding
Sec: Dillingham
Sec: Lower Kuskokwim
Sec: Lower Yukon
Sec: Yupiit
Sec: Aleutian East
Sec: Bristol Bay
Sec: Lake and Pen
Sec: Pribilofs
Sec: Unalaska

INDUSTRIAL ED

Woodworking
Sec: Dillingham
Sec: Lower Kuskokwim
Sec: Lower Yukon
Sec: Yupiit
Sec: Aleutian Region
Sec: Aleutian East
Sec: Bristol Bay
Sec: Lake and Pen
Sec: Pribilofs
Sec: Unalaska

Boat Building/Marine Tech
Sec: Yupiit
Sec: Aleutian East
Sec: Bristol Bay
Sec: Pribilofs

Aviation
UAF: Bristol Bay
UAF: Kuskokwim

Airframe/Power Mech
UAF: Bristol Bay

HEALTH

Health Occupations
STEP: Y/K Health Corp

Community Health Service
AAS: UAF-Bristol Bay
AAS: UAF-Kuskokwim

EMS
UAF-Bristol Bay
UAF-Kuskokwim

OTHER

Human Service tech
UAF-Bristol Bay
UAF-Kuskokwim

SOUTHWEST REGION

APPLIED ACADEMICS

Communications
- Copper River

Bio/Chem
- Sec: Lower Kuskokwim
- Sec: Aleutian East

Mathematics
- Sec: Dillingham
- Sec: Lower Kuskokwim
- Sec: Southwest Region
- Sec: Aleutian East

WORK EXPERIENCE

Work Experience
- Sec: Dillingham
- Sec: Lower Kuskokwim
- Sec: Lower Yukon
- Sec: St. Mary's
- Sec: Aleutian Region
- Sec: Bristol Bay
- Sec: Aleutian East
- Sec: Pribilofs
- Sec: Unalaska

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Institution

Another way of analyzing the current vocational education delivery system is to examine the type of institution offering training in the various regions. Currently, vocational training is operated by public secondary and postsecondary institutions, private non-profit agencies, unions and the private profit sector. For the purposes of this report, only occupational training which is open to the public is counted. Therefore, on-the-job training offered by both private and public employers to current employees—although a major source of skill training in the state—is not included.

The training providers listed in the following tables have been identified through a document search and interviews. Private service providers are those authorized by the Alaska Commission on Postsecondary Education (ACPE) to offer training in the state. ACPE regulations exempt some types of short-term training from the authorization process and these opportunities are therefore not recorded.

It should be noted that although union apprenticeship programs are listed only in the region in which the main school(s) is located, programs are often available statewide through outreach recruitment. All apprenticeship programs are open to the public; union membership is not an issue at the point of entry.

ANCHORAGE/MAT-SU

School Districts	Postsecondary	JTPA/STEP	Union	Other
Anchorage	***Public***	Anchorage PIC	AK Ironworkers Apprenticeship & Training	Job Corps Center
Mat-Su	UAA-Anchorage		Alaska Joint Electrical Apprenticeship & Training Program	Rainproof Roofing
	UAA-Mat-Su		Alaska Operating Engineers/Employers Training Trust	
			Alaska Southcentral/Southeasters Sheet Metal Workers	
	Private		Anchorage Area Plumbers and Pipefitters	
	APU		Heat & Frost Insulators & Asbestos Workers	
	AERO Tech Flight		Int'l Brotherhood of Painters & Allied Trades	
	Air Academy		Southern AK Carpenter's Apprenticeship & Training Program	
	Alaska Computer Inst		Anchorage Area Laborers	
	Alaska Technical Training			
	Career Academy			
	Center for Emp Ed			
	Charter College			
	Cimarron Tech			
	Compass North Nautical			
	Double Header Beauty			
	Elite Hospitality			
	Elmendorf			
	Environmental Management			
	Gatekey School			
	Head of Time			
	Jon Anthony (Anchorage)			
	Metroasis (Hair)			
	Northern Lights Hair			
	Older persons action			
	SST Travel			
	Take Flight			
	Testing Institute			
	Trend Setters			
	Valley Hair (Wasilla)			

GULF REGION

School districts	Postsecondary	JTPA/STEP	Union	Other
Chugach	***Public***	Region V		AVTEC (Seward)
Cordova	UAA-Kenai	Region VI		
Kenai	UAA-Kachemak Bay			
Kodiak	PWS Com C			
Valdez	UAA-Kodiak			
	Private			
	New Frontier (Soldotna)			
	People Count (Kenai)			
	Jon Anthony (Soldotna)			
	Renew U (Soldotna)			
	AK Flying (Kenai)			

INTERIOR REGION

School districts	Postsecondary	JTPA/STEP	Union
Alaska Gateway	***Public***	Fairbanks PIC	Fairbanks Area Plumbers and Pipefitters
Copper River	UAF-Tanana Valley	Region II	Fairbanks Area Sheet Metal Workers
Delta/Greely	UAF-Interior		Fairbanks Area Carpentry
Denali			Fairbanks Area Electrical
Fairbanks	***Private***		Fairbanks Area Painting and Allied Trades
Galena	Alaska Computer Inst.		Fairbanks Area Laborers
Iditarod	Sch of Integrating Shiatsu		
Kuspuk	C B. an Co. Styling		
Nenana	New Concepts Beauty		
Tanana	Team Cutters Inst of Hair		
Yukon Flats			
Yukon/Koyukuk			

NORTHERN REGION

School Districts	Postsecondary	JTPA/STEP	Union	Other
Bering Strait	***Public***	Region III		Alaska Technical Institute (Kotzebue)
Nome	UAF-Chukchi	Region II		
North Slope	UAF-Northwest			
Northwest Arctic	Ilisagvik College			

SOUTHEAST REGION

School districts	**Postsecondary**	**JTPA/STEP**	**Union**	**Other**
Annette Islands	***Public***	Region I		AVI (SERRC)
Chatham	UAS Juneau			Public Safety Academy
Craig	UAS Sitka			
Haines	UAS Ketchikan			
Hoonah				
Hydaburg	***Private***			
Juneau	Sheldon Jackson College			
Kake	Grand Illusions Hair Styling			
Ketchikan				
Klawock				
Pelican				
Petersburg				
Sitka				
Skagway				
Southeast				
Wrangell				
Yakutat				

SOUTHWEST REGION

School Districts	**Postsecondary**	**JTPA**	**Union**	**Other**
Aleutian Region	***Public***	Region IV		
Aleutians East	UAF Kuskokwim	Region V		
Bristol Bay	UAF-Interior/Aleutians			
Dillingham	UAF-Bristol Bay			
Kashunamiut				
Lake And Penn.				
Lower Kuskokwim				
Lower Yukon				
Pribilofs				
Southwest				
St. Mary's				
Unalaska				
Yupiit				

Who is enrolled?

Enrollment figures for vocational education and training programs present particular problems to the researcher. For example, both the public school system and the University of Alaska report enrollment by class, rather than by program. Thus, a student who is taking two or more vocational education classes appears two or more times in the total count. This duplicated counting makes it impossible to assess how many students take advantage of vocational education. To indicate the difference between course counts submitted to the Department of Education for secondary funding purposes and unduplicated counts of actual students, the following table may be useful.

Table 2: Course Count and Unduplicated Count
1995/96 School Year

District	Course Count	Unduplicated Count[4]
Anchorage	14,169	4,279
Fairbanks	3,902	2,411
Juneau	1,950	789[5]

Public School Foundation Formula funding, which is the major source of support for secondary vocational education programs, is determined by a fairly complicated formula which translates course counts into Full Time Equivalents (FTE), based on the number of courses offered per day. For example, a secondary school which is on a 6-period system would offer 6 courses per day. If a voc ed course is offered for one of these periods, its enrollment would be divided by 6 to obtain an FTE figure. Generally, figures reported in this report are duplicated counts rather than FTE, because FTE gives a distorted view of how many students are actually benefiting from vocational classes. For example, one student taking six vocational classes and six students taking one vocational class each yield one FTE, yet the impact on total numbers of students is far different. A comparison of duplicated count with FTE is given in the bottom two lines of Table 3.

The University's reporting system—which is by course— also yields duplicated counts, since one person may be enrolled in more than one class. Although it is possible to obtain an FTE figure by multiplying enrollments by the number of credits given for the class to yield a credit-hour count and then dividing by an average full-time load (for example, 12 credit hours per semester for undergraduates), figures reported here are raw, duplicated enrollments. The choice to report in this manner was made because it was not always possible to determine the appropriate credit hours, particularly for short-term courses. Also, the counts, though duplicated, give a better picture of how many people are actually taking advantage of vocational courses.

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[4] Unduplicated counts were obtained directly from Anchorage and Fairbanks, which keep these records for internal purposes. Juneau School District supplied unduplicated information for the 1996/97 school year but had to calculate it specifically for this report. Other large districts were contacted to see if an unduplicated count could be obtained without a major effort, but this proved impossible.

[5] (1996/97 school year).

Enrollment figures for other public institutions (AVTEC, Job Corps, etc.) are unduplicated head counts.

By institution

Secondary enrollment for the past school year is given below. Figures are by duplicated course counts.

Table 3: 1995/96 Secondary Vocational Education Enrollments

School District	1995/96 School Year	School District	1995/96 School Year
Alaska Gateway	197	Kodiak Island Bor. Schools	750
Aleutian Region Schools	12	Kuspuk Schools	94
Aleutians East Bor. Schools	73	Lake & Peninsula Borough	72
Anchorage Schools	14,169	Lower Kuskokwim Schools	987
Annette Island	228	Lower Yukon Schools	419
Bering Strait	598	Mat-Su Borough Schools	3,036
Bristol Bay	60	Nenana	88
Chatham	81	Nome City Schools	250
Chugach	54	North Slope Borough	464
Copper River Schools	175	NW Arctic Borough Schools	732
Cordova City Schools	524	Pelican City Schools	3
Craig City Schools	7	Petersburg City Schools	305
Delta/Greely Schools	349	Pribilof Islands Schools	59
Denali Borough Schools	34	Sitka Borough Schools	669
Dillingham	276	Skagway City Schools	86
Fairbanks N.S.B.	3,902	Southeast Island	84
Galena City Schools	21	Southwest Region Schools	13
Haines	292	St. Mary's	55
Hoonah	143	Tanana	36
Hydaburg	147	Unalaska	93
Iditarod Area Schools	244	Valdez City Schools	286
Juneau Borough Schools	1,950	Wrangell City Schools	187
Kake City Schools	34	Yakutat City Schools	89
Kashunamiut Schools	50	Yukon Flats Schools	180
Kenai Borough Schools	4,590	Yukon/Koyukuk Schools	385
Ketchikan	500	Yupiit	179
Klawock City Schools	90		

Public postsecondary enrollment figures are more difficult to determine, because the University system does not have an approved course process such as that at the secondary level. Therefore, to obtain figures, it was necessary to identify courses which could be considered vocational because they applied to an AAS degree or a certificate. The counts in the following table are therefore only approximate. Totals are duplicated counts as described above.

Table 4: Public Postsecondary Vocational Training Enrollments
1995-96/1996-97

	Total 1995/96		Total 1995/96
UAF-Fairbanks (duplicated count)		UAA-Anchorage (duplicated count)	
Tanana Valley Campus	9,259	Anchorage	11,143
Chukchi Campus	58	Kenai Peninsula	1,564
Interior Campus	2,197	Katchmak Campus	528
Bristol Bay Campus	1,101	Kodiak Campus	1,571
Northwest Campus	622	Mat-Su Campus	1,918
Kuskokwim Campus	594	PWSCC	2,694
Total	13,831	Total	19,418
UAS-Juneau (duplicated count)			
Juneau	3,391		
Ketchikan	951		
Sitka	2,770		
Total	7,112		

Other Public Postsecondary (unduplicated count)	**Total 1995/96**	**Current Year**
Ilisagvak		547
AVTEC (Seward)	1,719	697
ATI (Kotzebue)		59
AVI (Juneau)		31
Job Corps		252

By characteristic

Over the past decade, spurred in great part by federal Carl Perkins grant funds, vocational education programs have been reworked to meet the needs of special populations: women, minorities, limited English-speaking students, the disabled, the disadvantaged and participants in programs nontraditional to their gender. Statistics on participation by these special populations are kept by all secondary programs and to some degree by public postsecondary programs. Available information on participation of various ethnic groups, by site, is displayed in the following tables.

Table 5: Secondary Enrollment by Gender and Ethnicity
1995/96 School Year

	White		Black		Hispanic		Asian/Pacific Islander		AK Native/ Native Amer.	
	M	F	M	F	M	F	M	F	M	F
Student Hours	14,347	10,301	1,136	899	490	472	915	907	4,923	4,011
FTE (hours/6)	2,391	1,717	189	150	82	79	153	151	821	669

Table 6: Secondary Enrollment
by Special Socio/Economic Characteristic
1995/96 School Year

	Disadvantaged		**Disabled**		**Limited English Speaking Ability**	
	M	**F**	**M**	**F**	**M**	**F**
Student Hours	6993	4723	2564	1017	2769	2307
FTE (hours/6)	1166	787	427	170	462	385

Table 7: UA Enrollments by Region/by Race
1995-96 School Year

Region	**Alaska Native-Indian**	**Asian-Pacific Islander**	**Black**	**Hispanic**	**White**	**Other (includes aliens)**
Anchorage	1,151	526	824	509	9,669	382
Gulf	514	195	34	114	4,937	563
Interior	1,973	123	638	121	8,024	647
Northern	334	7	6	7	283	43
SE	1,097	155	73	107	5,225	455
SW	1,001	25	3	19	497	114
Total	6,070	1,031	1,578	877	28,635	2,204
% Total enrollment	15.1%	2.6%	3.9%	2.2%	70.8%	5.5%

In what programs?

Enrollment by program

Secondary enrollment reported above is spread across the occupational clusters recognized by the Alaska Department of Education. As can be seen in the following table, three sectors (Business/Office, Family/Consumer Science, Trade and Industrial Education) dominate enrollment, accounting for 63.7 percent of the total. These three areas encompass various general interest courses—such as computer applications, life and parenting skills and basic tool use—which are taken as electives by a broad cross-section of students and which account for a large part of the enrollment in the cluster. For example, parenting and life skills education courses make up 64 percent of the enrollment in Family/Consumer Science. Computer applications/keyboarding courses account for 82.4 percent of Business/Office enrollments, while general shop/auto mechanics courses represent 33.6 percent of Trade and Industrial Education's enrollment.

Table 8: Secondary Enrollment by Occupational Cluster
1995-96 School Year

	White		Black		Hispanic		Asian/Pacific Islander		AK Native Am. Indian		Total
Program Cluster	**M**	**F**	**M**	**F**	**M**	**F**	**M**	**F**	**M**	**F**	
Nat. Resources/Ag	237	93	4	0	1	0	3	5	165	124	**632**
Business/Mngt	430	635	32	44	11	25	44	54	130	188	**1593**
Business/Office	2,418	2,561	188	210	95	130	211	247	842	932	**7,834**
Marketing	241	293	37	43	18	26	24	41	106	118	**947**
Media	175	93	18	14	3	6	6	7	80	73	**475**
Allied health	50	92	10	18	5	11	7	11	5	16	**225**
Family/Consumer											
Consumer	1,968	2,574	287	251	102	118	213	271	604	921	**7,309**
Occupational	52	67	11	7	9	1	11	8	40	34	**240**
Industrial Arts											
Trade and I	4,798	1252	157	77	104	42	180	84	1,856	772	**9,322**
Tech Ed/I.A.	1335	434	85	20	29	12	74	42	311	159	**2,501**
Technical											
Work Experience	1123	1,222	144	129	53	53	75	91	449	460	**3,799**
Applied Acad	1,516	985	163	86	60	48	67	46	335	214	**3,520**
Student hours	14,343	10,301	1,136	899	490	472	915	907	4,923	4011	**38,397**
FTE (hours/6)	2,391	1,717	189	150	82	79	153	151	821	669	**6,400**

The University of Alaska reported enrollments by vocational course. These courses have been grouped into broader occupational categories. Enrollments in these occupational categories for the past school year are shown in the following table.

Table 9: UA Enrollments by Occupational Category
1995-96 School Year

Occupation	1995/96 Enrollment (duplicated)	Occupation	1995/96 Enrollment (duplicated)
Office/business	8,686	Industrial Ed	1,171
Auto/diesel	837	Early childhood	878
Drafting/architect	548	Electronics	1,092
Surveying/mapping	332	Tourism	180
Aviation	2,264	Fire science	786
Computer	11,524	Forestry	20
Food	772	Human services	5,325
Health	2,864	Petroleum	1,880

Several other training facilities/programs reported enrollment by program. The following tables display this information.

Table 10: Apprenticeships by Program

as of May, 1996[6]

Apprenticeship	Minority	Female	Total
Communication/Trans	6	0	22
Construction	279	87	947
Manufacturing	8	5	1
Services	4	0	22
Other	93	44	4

Table 11: AVTEC Enrollment by Program

	FY96			FY97		
Program	Male	Female	Total	Male	Female	Total
Mechanics	262	13	275	147	7	154
Business/Office	24	58	82	7	45	52
Physical Plant tech	241	7	248	154	4	158
Food service	52	16	68	42	24	66
Oil Tech	364	4	368	146	3	149
Forest tech	22	1	23	7	1	8
Emergency med.	168	49	217	51	24	75
Fisheries	211	26	237	87	8	2
Maritime	157	17	174	29	4	33
Misc.	17	10	27			
Total	1,518	201	1,719	670	120	697

Table 12: Job Corps Center Enrollment by Program
(as of March, 1997)

Program	Number	Program	Number
Business/clerical	30	Carpentry	20
Health Occupations	30	Painting	20
Culinary Arts	24	Heavy Equipment	16
Child Development	20	Building Maintenance	24
Water/Wastewater	24	Electrician	24
Accounting Clerk	20		

Special Population Enrollment by Program

Equity concerns require an examination of program enrollment by special populations. The following table provides this information for the secondary population. As can be seen, special population males are heavily concentrated in Trade and Industry, the more traditional "shop" types of programs, while special population females are most likely to be enrolled in family/consumer science and business/office courses. It is encouraging, however, to see that male/female enrollment for disadvantaged students is about equally distributed in occupational family/consumer science, marketing and work experience.

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[6] Source: U.S. Department of Labor, Bureau of Apprenticeship and Training, *State Annual Report: Alaska*, May 14, 1996.

Table 13: Program by Special Population
1995-96 School Year

	Disadvantaged		**Disabled**		**Limited English Speaking**		**Nontraditional**	
Program Cluster	**M**	**F**	**M**	**F**	**M**	**F**	**M**	**F**
Natural Resources/Ag	205	117	65	11	78	53	10	17
Business/management	121	153	28	18	77	85	32	39
Business/Office	1,080	990	393	243	491	501	166	121
Marketing	173	164	36	45	88	80	2	1
Media	102	78	23	10	51	59	31	51
Allied health	25	51	20	30	12	22	0	0
Family/Consumer								
Consumer	1,008	1,175	455	304	398	517	219	40
Occupational	46	33	25	12	14	10	0	0
Industrial Arts								
Trade and I	2,273	736	853	107	778	376	89	373
Tech Ed/I.A.	504	161	168	32	174	84	18	64
Technical								
Work Experience	765	694	241	134	303	305	1	5
Applied Academics	691	371	257	71	305	215	1	3
Student hours	6,993	4,723	2564	1017	2,769	2,307	569	714

Enrollment by level

A final way of looking at enrollment is by training level. With the exception of the secondary figures, all other figures in the following table are unduplicated body counts.

Table 14: Enrollment by Educational Level

	1995/96	**Current**		**1995/96**	**Current**
Secondary	38,401		**Short term**		
			Ilisagvik		500
Postsecondary Degree			AVTEC	1,432	
AAS	1,016		ATI		12
BS in Technology	322		AVI		52
MS in Voc Ed	18				
Postsecondary Certificate			**JTPA**		
Ilisagvak	47		Adult	486	
AVTEC	367		Older	27	
Job Corps		252	Summer	444	
ATI		59	Youth	196	
AVI		47	Dislocated Worker	411	
			Nat'l Resources	216	
Apprenticeship	1,092		**STEP**	1,780	

How is it supported?

Funding

The major source of funding for vocational education in Alaska is the state's General Fund. Secondary programs receive support through the Public School Foundation Program. University programs are supported through General Funds and tuition receipts. Both AVTEC and ATI receive state General Fund support.

STEP programs are funded through a portion of the state's Unemployment Insurance receipts. Alaska Career Information System is supported by program receipts. Both of these sources reflect state support, since the state could have used these receipts for other purposes.

Federal funding is the second major source of support. Carl Perkins funds are distributed as grants to public secondary and postsecondary institutions. JTPA and Job Corps are both totally federally funded.

Both secondary and postsecondary institutions receive local support from their city/boroughs. Such support is minimal for many campuses of the University, but is a major fund source for Prince William Sound Community College. Finally, some industry funds support programs, particularly at the state's two technical centers.

The following tables present funding information which was available from published reports or from interviews. It does not include University of Alaska funding, which is difficult to identify by program.

School District Funding

Alaska school district currently receive state funding on an instructional units basis, with certain numbers of students generating one instructional unit. All students in all programs are first counted to yield general instructional units. The funds generated by such units are intended to cover the basic costs of educating a group of students: teacher salaries, supplies, materials, administrative and facility overhead. The state also recognizes that some students and programs require additional resources, such as specialized equipment and facilities, additional staff support, and specialized support services. Additional, categorical funds are generated by these students and programs. The major categorical areas at present are: Special Education, Bilingual Education and Vocational Education.

In the current Foundation program, then, school districts receive state funding for vocational education in two ways: first, vocational education students are counted as part of the total secondary school enrollment to generate funding for basic program support. Second, vocational education courses generate categorical funding, which is intended to support the additional equipment, material and facility upkeep costs of vocational programs.

The following table looks at expenditures for vocational education from both general and categorical funding across districts. One question to be asked in presenting fiscal information from one period is how it compares with past periods. For the purposes of such a comparison, this study looked at expenditures over the six-year period from the 1990/91 school year (FY91) through the 1995/96 school year (FY96).

Table 15: Audited Vocational Education Expenditures of Local School Districts - FY91 through FY96

DISTRICT	FY91	FY92	FY93	FY94	FY95	FY96
ALEUTIANS EAST	123,201	122,918	124,638	169,718	162,528	171,828
ANCHORAGE	**5,156,482**	**6,283,351**	**6,778,323**	**6,948,870**	**6,433,475**	**6,311,326**
BRISTOL BAY	164,430	163,439	175,079	178,707	186,343	189,321
CORDOVA	**241,366**	**253,129**	**239,866**	**251,674**	**239,435**	**215,823**
CRAIG	134,778	121,295	122,371	-	-	-
DENALI	**(see Railbelt REAA)**					
DILLINGHAM	226,641	238,597	227,180	220,023	245,018	239,544
FAIRBANKS	**2,546,371**	**2,313,146**	**2,151,893**	**2,028,208**	**2,147,347**	**2,039,245**
GALENA	47,031	89,482	79,672	50,310	121,050	94,639
HAINES	**120,426**	**109,732**	**114,166**	**126,002**	**105,648**	**109,698**
HOONAH	128,245	99,807	116,737	188,099	180,849	144,522
HYDABURG	**48,301**	**61,700**	**65,014**	**64,769**	**52,415**	**72,237**
JUNEAU	682,313	768,639	784,697	775,554	640,636	640,058
KAKE	**86,185**	**61,572**	**72,362**	**98,698**	**100,401**	**94,308**
KENAI	2,048,155	2,225,428	2,121,231	2,376,644	2,652,436	2,283,125
KETCHIKAN	**686,204**	**687,411**	**684,913**	**651,912**	**540,499**	**476,845**
KLAWOCK	129,858	115,805	116,414	101,977	121,476	110,201
KODIAK	**684,562**	**762,173**	**810,087**	**810,680**	**892,394**	**803,507**
LAKE AND PENN.	193,057	108,614	95,887	70,811	101,084	53,992
MAT-SU	**2,166,239**	**1,594,962**	**1,638,337**	**1,580,549**	**1,890,082**	**1,959,080**
NENANA	86,762	105,945	113,996	69,304	44,658	53,776
NOME	**244,133**	**204,169**	**204,302**	**203,940**	**218,973**	**175,618**
NORTH SLOPE	185,093	154,642	290,230	619,038	798,972	835,711
NORTHWEST ARCTIC	**356,006**	**396,749**	**552,921**	**410,765**	**417,603**	**449,897**
PELICAN	25,000	13,161	25,813	19,343	19,513	22,371
PETERSBURG	**185,603**	**188,628**	**204,707**	**202,409**	**209,375**	**194,103**
SITKA	276,964	301,056	291,969	230,577	331,055	371,473
SKAGWAY	**2,708**	**13,607**	**10,612**	**17,972**	**14,608**	**9,272**
ST. MARY'S	83,963	67,803	72,401	64,057	14,249	19,069
TANANA	**57,814**	**34,456**	**94,714**	**85,228**	**88,246**	**63,493**
UNALASKA	116,037	91,381	175,177	108,942	110,248	121,321

Table 15 (cont.): Audited Vocational Education Expenditures of Local School Districts

VALDEZ	593,408	450,326	379,949	462,460	459,356	421,595
WRANGELL	210,163	179,349	178,064	186,665	186,773	218,251
YAKUTAT	105,650	110,460	117,804	132,988	116,839	119,272
Total-City/Borough	12,322,892	11,548,800	11,791,249	11,957,924	12,821,803	12,196,223
ALASKA GATEWAY	117,819	217,517	219,810	225,616	242,569	203,137
ALEUTIAN REGION	23,019	16,116	15,264	20,061	18,939	15,443
ANNETTE ISLANDS	188,924	220,805	248,398	206,215	250,926	272,641
BERING STRAIT	834,517	805,223	772,089	869,760	812,252	934,234
CHATHAM	128,497	84,129	60,842	151,308	72,401	92,115
CHUGACH	38,739	25,160	66,576	33,796	43,577	29,347
COPPER RIVER	285,419	261,853	209,319	212,788	144,651	169,558
DELTA/GREELY	198,414	202,349	216,641	223,713	211,504	196,359
IDITAROD	166,656	159,023	105,623	61,358	165,735	209,458
KASHUNAMIUT	42,695	62,842	39,415	48,379	51,894	50,056
KUSPUK	178,169	228,455	141,986	234,567	189,693	147,330
LOWER KUSKOKWIM	376,525	286,337	268,156	301,611	332,446	342,395
LOWER YUKON	349,440	436,857	414,417	631,508	645,766	538,695
PRIBILOF	19,130	22,863	67,094	97,413	64,515	84,070
RAILBELT	99,863	88,238	91,656	71,512	75,762	68,819
SOUTHEAST	84,033	79,442	78,556	81,500	77,471	77,552
SOUTHWEST	151,287	116,753	100,797	112,800	143,984	24,075
YUKON FLATS	-	129,126	172,362	115,210	66,997	72,781
YUKON/KOYUKUK	439,164	471,162	509,232	512,531	361,653	72,781
YUPIIT	238,392	257,646	251,339	174,614	157,963	349,014
Total-REAA[7]	3,960,702	4,171,896	4,049,572	4,386,260	4,130,698	149,966
TOTAL-State	16,283,594	15,720,696	15,840,821	16,344,184	16,952,501	16,223,268

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[7] Excluding Adak Region Schools, which ceased operation after the 1993/94 school year.

Table 16 places vocational education expenditures in a larger context by tracing changes in vocational education expenditures, expenditures for the total instructional program, annual enrollments (Aggregate Daily Membership, or ADM) and annual vocational education course enrollments (in FTE). An analysis of this information yields the following interesting results.

Vocational education expenditures in City/Borough schools, which had been increasing at a modest rate over the period, declined by nearly 4 percent from the 1994/95 school year to the 1995/96 year, although both total instructional expenditures and enrollments continued to increase. Despite this decline, however, in nominal terms (unadjusted for inflation) expenditures for vocational education have increased by a little over 5 percent since 1990/91.

The recent decline in vocational expenditures is more severe for the Regional Education Attendance Areas (nearly 6 percent in FY95 and addition 2.5 percent in FY96). REAA vocational education spending ends up with a very modest 1.7 percent increase in nominal terms over the period.

The figures for the state overall show a 4.5 percent increase in vocational expenditures, compared to a nearly 25 percent increase in total instructional expenditures and a 14 percent positive change in enrollment. Table 16 also reveals a slight decrease (0.6 percent) in vocational course enrollment from FY95 to FY96, after a significant (7.6 percent) increase in FY95.

While the above figures would appear to imply a steady if slight growth in secondary vocational education activity, when expenditure data is adjusted for inflation, the results are quite different. Table 17 shows that the Anchorage Consumer Price Index has grown by 13.7 percent over the period. The effect of this price increase on what funds can purchase, in real terms, has been an 8 percent real decrease in vocational expenditures, compared to a 10 percent real increase in total instructional expenditures.

Similar figures on expenditures in the University system were not available. Although it is possible to trace expenditures at the various campuses from readily-available records, it is not possible to separate out vocational education expenditures with much accuracy.

Table 16: Changes in Vocational and Total Instructional Expenditures FY91 though FY96

	FY91	FY92	FY93	FY94	FY95	FY96	Change over Period
CITY/BOROUGH (excluding Denali)							
Total Voc ed	18,143,149	18,492,932	19,231,526	19,506,893	19,843,584	19,084,521	5.19%
Annual Change		1.93%	3.99%	1.43%	1.73%	-3.83%	
Total Instruction	404,628,875	445,659,966	470,494,630	493,378,320	500,936,377	512,489,560	26.66%
Annual Change		10.14%	5.57%	4.86%	1.53%	2.31%	
ADM	95,602	100,472	103,306	106,167	107,473	109,059	14.08%
Annual Change		5.09%	2.82%	2.77%	1.23%	1.48%	
REAA (including Denali)							
Total voc ed	3,960,702	4,171,896	4,049,572	4,386,260	4,130,698	4,027,045	1.68%
Annual Change		5.33%	-2.93%	8.31%	-5.83%	-2.51%	
Total instruction	85,259,896	88,391,646	89,603,440	93,232,483	95,613,160	97,871,919	14.79%
Annual Change		3.67%	1.37%	4.05%	2.55%	2.36%	
ADM	11,854	12,161	12,666	13,011	13,279	13,838	16.73%
Annual Change		2.58%	4.15%	2.72%	2.06%	4.21%	
ALL DISTRICTS							
Total Voc Ed	22,103,851	22,664,828	23,281,098	23,893,153	23,974,282	23,111,566	4.56%
Annual Change		2.54%	2.72%	2.63%	0.34%	-3.60%	
Total Instruction	489,888,771	534,051,612	560,098,070	586,610,803	596,549,537	610,361,479	24.59%
		9.01%	4.88%	4.73%	1.69%	2.32%	
ADM	107,456	112,633	115,972	119,178	120,752	122,897	14.37%
		4.82%	2.96%	2.76%	1.32%	1.78%	
9-12 ADM				32,347	33,366	34,234	
					3.2%	2.6%	
voc ed FTE				5,982	6,439	6,400	
					7.6%	-0.6%	

Table 17: Voc Ed and Total Instructional Spending in Real Dollars[8]
FY91 through FY96

	FY91	FY92	FY93	FY94	FY95	FY96	Change over Period
Anchorage COLA	124.7	129.1	132.8	135.8	139.5	141.8	13.71%
Vocational Ed	17,725,622	17,556,025	17,530,947	17,594,369	17,185,865	16,298,707	-8.05%
Total Instructional	392,853,866	413,672,821	421,760,595	431,966,718	427,634,077	430,438,279	9.57%

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[8] 1980/82 base.

Other State Vocational Expenditures

In addition to state Public School Foundation Formula funds for vocational education, which represent the major source of revenue for the expenditures reported in the previous tables, state secondary and postsecondary institutions have other sources of support. State General Fund is appropriated to the two non-University training centers—AVTEC and Alaska Technical Institute—as well as to the Rural Student Vocational Program (RSVP), student vocational leadership organizations (VSLOs) and to state administration. The Alaska Career Information System is supported chiefly by subscriptions from user agencies in the form of program receipts.

The RSVP program has for many years brought rural students into urban centers for short-term job experiences related to their field of vocational study in their home district. The program was developed in recognition that many areas of Alaska do not have local economies which can provide on-the-job experiences in many of the vocational areas. At one time the program operated statewide; currently it is operating in a greatly-reduced form.

Alaskan vocational education students participate in the five VSLOs which are recognized nationally:

- Future Homemakers of America
- Future Farmers of America
- Vocational Industrial Clubs of America (VICA)
- Distributive Education Clubs of America (DECA)
- Business Education Association (BEA)

These student organizations provide valuable leadership experience and offer students opportunities to participate in skill contests which are judged by relevant business and industry leaders. State funds have provided for a statewide leadership conference and for minimal state club advisor support. Funds were deleted for FY96. For FY97, funding to partially support a state conference was appropriated.

The following table charts the course of these sources of support for the period between FY88 and FY98. Figures from FY88 to FY96 represent actual expenditures. FY97 figures reflect the appropriation to the program and FY98 figures are taken from the Governor's proposed budget. All figures are in nominal terms. In real terms, state General Fund actual and proposed expenditures for the period have declined by more than 25 percent.

Table 18: Other DOE expenditures
FY88 through FY98 Governor's Budget Request

	88	89	90	91	92	93	94	95	96	97	98	% change
Admin	933.2	1057.6	1134.2	1154.9	1003.1	575.3	696.5	543.7	551	727.1	651.4	-30.2%
Federal	373.7	488	538.1	535	458.5	394.5	515.7	362.9	370.2	545.6	467.2	25.0%
State GF	559.5	569.6	596.1	619.9	544.6	180.8	180.8	180.8	180.8	181.5	184.2	-67.1%
AKCIS - program receipts	172.5	240.8	307.8	294.5	252.5	287.9	250.3	262.8	248.7	213	216	25.2%
RSVP - GF	195	200	199.2	200	200	190	190	190	184.8	100	100	-48.7%
ATI - GF	950	950	902.5	965.7	914.5	848.7	848.7	814	734	634	634	-33.3%
AVTEC - GF	4178.2	4659.7	4647	4801.1	4867.8	4528.2	4606.3	4558.7	4691.1	4627.2	4984.9	19.3%

The Department of Education also administers a state appropriation for High School Completion for Young Parents. The funds are appropriated to the Department of Health & Social Services, which receives $125,000 annually to provide vocational and comprehensive education and support services to minor parents and their children. Through a coordinated process, the two departments work together to develop, administer and evaluate a competitive grant process to three school districts, currently Mat-Su, Fairbanks and Kenai. Approximately 280 students and their children are served annually.

Carl Perkins Funds

The major source of funds for vocational education program expansion and improvement in both the public secondary and postsecondary institutions has historically been the federal Carl Perkins Act. Federal appropriations have been fairly constant since the early 1990's at between $4.0 and $4.2 million. Except for a modest amount retained for state administration (represented in the Federal Administration line on the above chart), the Carl Perkins funds go to support local programs.

From this allocation, the state has issued grants for several purposes. Basic grants for secondary schools are based on enrollment and other demographic factors, such as the number of disadvantaged students serviced. The distribution of these basic grants for the current and past two fiscal years is displayed in Table 20.

Postsecondary funds are distributed to the University of Alaska system and ATVEC through a competitive grant program. Special Populations grants are also awarded competitively to districts, postsecondary institutions and private non-profit service agencies. The Department also disburses tech prep funding through a separate Carl Perkins grant award to the state.

Table 19: Annual Carl Perkins Total Distributions

Category	Amount	Category	Amount
Basic Grants	$2,640,000	Special Populations	$520,000
Postsecondary	$465,000	Leadership	$350,000
Administration	$240,000		
		Tech Prep	$220,000

Basic Grant funds are heavily targeted to special populations and have been a major source of funding for districts as they expand vocational training to at-risk populations. The grant funds have also been used to develop innovative programming for the general student population.

The Carl Perkins legislation is currently undergoing reauthorization at the federal level and its future at this point in time is uncertain. The potential impacts of substantial changes/reductions in this funding are discussed in the section on *Emerging Challenges* of this report.

Table 20: Carl Perkins Basic Grants

	FY95	FY96	FY97		FY95	FY96	FY97
Alaska Gateway	24,000	24,319	23,338	Kuspuk	21,035	22,022	23,191
Aleutian Region	(Consortium Member)			Lake And Penn.	17,277	16,910	
Aleutians East	10,426	10,903	7,530	Lower Kuskokwim	155,762	153,056	161,331
Anchorage	915,243	906,216	871,273	Lower Yukon	75,554	75,916	87,663
Annette Islands	9,845	10,393	-	Mat-Su	236,297	231,990	230,675
Bering Strait	67,113	67,022	74,944	Nenana	2,000	12,751	9,212
Bristol Bay	(Consortium Member)			Nome	24,190	24,944	17,972
Chatham	5,684	5,421	11,063	North Slope	30,262	28,631	29,769
Chugach	(Consortium Member)			Northwest Arctic	66,202	66,089	64,512
Copper River	15,482	16,851	18,367	Pelican	(Consortium Member)		
Cordova	*	7,437	7,069	Petersburg	11,272	11,612	10,682
Craig	7,807	7,408	6,107	Pribilof	(Consortium Member)		
Delta/Greely	22,117	23,964	28,466	Sitka	25,095	24,494	23,111
Denali	(Consortium Member)			Skagway	(Consortium Member)		
Dillingham	10,590	11,450	10,656	Southeast			
Fairbanks	294,866	283,886	287,831	Southwest	32,427	32,488	34,544
Galena	(Consortium Member)			St. Mary's	(Consortium Member)		
Haines	(Consortium Member)			Tanana	(Consortium Member)		
Hoonah	10,345	9,975	7,272	Unalaska	4,557	3,361	5,276
Hydaburg	(Consortium Member)			Valdez	11,833	11,355	10,471
Iditarod	21,438	20,236	22,713	Wrangell	*	11,152	10,687
Juneau	91,751	89,526	85,175	Yakutat	3,801		
Kake	*	*	2,888	Yukon Flats	26,970	25,376	27,158
Kenai	207,428	203,771	200,432	Yukon/Koyukuk	28,610	25,541	34,586
Ketchikan	38,078	33,665	32,585	Yupiit	13,865	14,315	17,838
Klawock	4,489	4,348	3,432	Kashunamiut	9,349	9,445	10,597
Kodiak	46,709	43,791	34,167	Small School Consortium	65,569	59,543	50,127
				TOTALS	2,665,338	2,641,573	2,594,710

Competitive Grant Funds

Carl Perkins funds are also disbursed competitively to secondary and postsecondary institutions in the state. By state policy, 15 percent of the grant moneys annually are dedicated to postsecondary programs and are a major source of program innovation for the various campuses of the University system. For example, UAA uses Carl Perkins funding to support the itinerant Aviation Maintenance Training program, which last school year brought aviation-related instruction to 15 rural sites.

TVC's Carl Perkins funding helped to develop an health care program cluster which includes distance delivery of an LPN program through Weber State University. UAS Carl Perkins funds support the Sitka Education Consortium referenced above, while the director of the Katchmak Bay campus on the Kenai Peninsula cites Carl Perkins as the primary support, together with tuition, for that campus' programs.

Carl Perkins has also been the major funding source for Tech Prep program development around the state. Tech Prep programs involve articulation between secondary and postsecondary programs, usually offering secondary students the opportunity to begin earning credits toward an associate degree while in high school and providing "seamless" transitions between high school and the postsecondary setting. Tech prep programs are also commonly referred to as "2 x 2" programs, indicating that the courses taken in the last two years at the secondary level lead into an associate degree program at a participating institution. Tech prep programs represent major efforts at easing the transition from high school to postsecondary education for the non-baccalaureate student and for the eventual transition from school to work.

Community-Based Organization funds, which are no longer available, in past years provided support for a highly successful program to train youth for the fishing industry. The program involved coordination between the Alaska Marine Safety Education Association and the University of Alaska Southeast. Consumer and Homemaking Education funds, which have also been phased out, have supported improving, expanding and modernizing local school curricula. As a result, most local programs now include parenting, child development, nutrition and employability skills.

A final category for Carl Perkins competitive grant funding has been programs for special populations and to increase gender equity in vocational training programs at the secondary, postsecondary and adult levels. Table 21 indicates that over one million dollars has been directed at these programs in the past two years, through a variety of public and private non-profit agencies. The experiences of these programs, particularly those dealing with single parents and displaced homemakers, have significant implications for welfare reform efforts in the state and are discussed at some length in the *Emerging Challenges* section of this report.

As mentioned earlier, the Carl Perkins Act is currently under review by Congress. Changes in the Act could have serious implications for Alaska's vocational education delivery system.

Table 21: Competitive Carl Perkins Funding
FY95 through February, 1997

	FY95	FY96	FY97		FY95	FY96	FY97
SPECIAL POPULATIONS				TECH PREP			
Anchorage-Crossroads		**71,930**	71,930	**Juneau**		**69,407**	64,932
Fairbanks-Gender Equity		29,700		Kenai	60,000		
Fairbanks-Single Parents	**43,000**	**43,000**	43,000	**Kodiak**		**64,923**	
Juneau-Single Parent	27,750	27,750	27,750	North Slope		75,000	75,000
Kenai-HS Completion	**39,600**	**39,600**		**UAF**	60,000	**60,000**	60,000
Kenai-Displaced Homemaker	28,000	28,000	28,000	UAF-Tanana (Integrated		77,000	
Kodiak-Gender Equity		**64,923**			120,000	**346,330**	199,932
Mat-Su-HS Completion	45,000	45,000					
Mat-Su Single Parent	**54,450**	**54,450**		POSTSECONDARY			
Wrangell-Breaking Barriers	6,187	3,400		UA-Anchorage	80,000	77,000	
Corrections-Gender Equity	**55,919**	**59,070**		**UA-Kachemak**	**77,000**	**77,000**	
SERRC-Adult		31,500	31,500	UA-Southeast	77,000	77,000	
SERRC-Gender Equity	**13,450**	**13,450**	14,153	**UAF-Tanana Valley**	**77,000**	**77,000**	
SERRC-Single Parent	28,000	28,000	28,000	AVTEC	77,000	77,000	
SERRC-Inviting Classrooms	**30,044**	**35,431**	35,654		**388,000**	**385,000**	
UAF-Non-traditional		29,000					
UAF-Women/minorities	**40,647**	**43,780**					
AVTEC-Single Parent	32,400	32,400					
SAGA-Gender Equity	**30,320**	**30,320**	30,320				
TOTAL	477,767	710,704	310,307				

Other Funding Sources

Two major sources of funding for which information is available are the Job Training and Partnership Act (JTPA) and the state's STEP program. JTPA is administered in Alaska by three entities: the Anchorage and Fairbanks Private Industry Council (PIC) and the, Department of Community and Regional Affairs for programs outside of Anchorage and Fairbanks. JTPA funds are used to support both individual clients, through a case management system, and training programs run by a variety of public and private agencies. In the case managed portion of JTPA, clients develop an individual training plan with a JTPA counselor, and the appropriate training and support services are purchased or brokered from existing programs. In the other case, JTPA funds are used to develop and implement a program specifically for JTPA clients.

STEP program are funded by an appropriation of a certain percentage of Unemployment Insurance receipts and must serve clients who have participated in the UI program in the past. Both STEP and JTPA focus considerable attention on placement of the client in paid employment after the training. Again, this system has characteristics which could provide a model for welfare reform activity in the state. Possible applications are discussed in the *Emerging Challenges* section of this report.

Information on JTPA/STEP program funding for the three most recent fiscal years is provided in Table 22.

Table 22: JTPA/STEP Funding[9]

JTPA	FY95	FY96	FY97
Title IIA - Adult	2,240.568	2,466.980	2,362.284
Title IIB-Summer Youth	1,657.800	1,942.500	2,595.400
Title IIC - Youth	2,032.832	2,686.952	353.188
8% School to Work	371.600	448.168	236.128
Title III - Displaced Worker	2,209.600	2,920.700	2,837.900
STEP	3,050.000	2,941.500	3,333.600
TOTAL:	11,562.400	13,406.800	11,718.500

A final source of funds supporting the state's vocational education delivery system is the federal Job Corps Program. Alaska receives approximately $6 million annually from this program for operating the Palmer Job Corps Center.

Staffing

General information on staff preparedness and certification was obtained from district vocational education directors at a statewide workshop in Anchorage in February, 1997, attended by representatives from 24 districts. This information was supplemented through a survey of school districts on numbers, certification and replacement of vocational education staff. Nineteen districts, representing over 80 percent of total and vocational education enrollment, responded to the survey.

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[9] data was not available from the Anchorage Area Private Industry Council.

All training institutions seek faculty who have occupational as well as teaching experience. Vocational education directors indicated that they had more difficulty in securing adequately trained staff today than in the past. Although the problem appears to be greatest for the more highly technical areas, both urban and rural areas reported a general lack of trained candidates. For example, one district reported a lack of applicants in most vocational areas at recent statewide Teacher Job Fairs, which are the chief venues for hiring new teachers for many rural districts, in particular.

Most districts reported that their full-time vocational education staff held a regular Type A certificate with a vocational education endorsement. Five districts—mostly districts with only one or two full-time staff—reported that all of their teachers held a Type D certificate which credits industry experience equally with academic background. While a Type A certificate indicates that the possessor has the necessary pedagogical skills, the directors also indicated that some pre-service programs for vocational education teachers emphasize breadth rather than depth in any one occupational area.

Districts were asked how their voc ed staffs stayed current with changes and developments in their occupational areas. The most-commonly reported method was through academic coursework. Eleven districts reported voc ed teachers sought summer employment or internships in industry. Even with this activity, however, some districts reported problems in assuring that instructors keep up-to-date in their occupational field, particularly since current recertification requirements do not specify recency in the teacher's field of endorsement. One suggestion was that teachers be required to have some recent work experience, even as little as several days or a week, as a condition for recertification.

At the postsecondary level, the emphasis again is on work experience over research experience in hiring. However, postsecondary institutions also cite difficulty in finding highly-trained instructors, particularly for short-term programs. This problem was given as the chief reason why the university system finds it difficult to respond quickly to industry requests for specialized, highly-technical training for current employees.

At all levels of public education, recent and current Retirement Incentive Programs have affected considerable numbers of experienced vocational educators. While this situation can present an opportunity to bring in a more recently educated and employed faculty, it is also a cause for concern as vacated positions may not be filled as a cost-saving measure. The 18 districts responding to the questionnaire reported a net loss of 15.5 full-time vocational education positions over the past two years. This represents a decline of 8 percent. If Anchorage—which accounts for 43 percent of the full-time teaching staff—is excluded, the decline over the past two years climbs to 11 percent. This reduction in staff should be considered in relation to the 6.7 percent increase in vocational education enrollments over the same period.

Half of the districts cited "funding" as the biggest problem faced at present in securing and maintaining a high quality vocational education staff. Some districts cited staff burn-out, either with vocational education teachers who are assigned other courses for which they are not prepared (a practice which is reported as becoming more common as districts are forced to "downsize") or with non-vocational teachers who are assigned to teach voc ed without adequate preparation. Other problems in rural areas were high staff turn over and the need to hire generalists rather than specialists, thereby limiting the consistency and quality of skill training that districts can offer.

Student leaders from Alaska's five vocational education organizations voiced deep concern over the difficulty in obtaining teacher advisors for the organizations. Decline in state support, teacher overload and a general de-emphasis on occupational skill training by district Boards and administrators were put forward as causes.

On a more positive note, the teacher training program at UAA is growing in importance to the state's vocational delivery system. Since the program's inception, it has graduated 68 teachers with a Masters of Science in Vocational Education. The program is offered statewide through distance education. Of graduates surveyed, 72 percent reported that their current employment was definitely related to their degree.

Other University-sponsored staff development sources have been the Vocational Intern Program (VIP), which has placed 120 vocational education teachers from around the state in summer internships with business and industry and the Administrative Internship Program which provided training to potential vocational education administrators. The person responsible for these programs, however, is being affected by early retirement and the decision to retain the position has not yet been made.

Equipment

More so than other instructional programs, the quality of vocational education depends on access to appropriate and current equipment. Given the state of rapid technological change occurring in almost all occupational areas, most programs find it difficult if not impossible to keep up. Because private, for-profit career education programs are the most market-driven of all service providers, these programs tend to invest more heavily in equipment upgrading and replacement than do publicly-supported programs. Even in the private sector, however, technological change presents a constant challenge.

The state's Public School Foundation Program has historically recognized the added equipment (and facility operation) expenses incurred in vocational education by providing categorical or "extra" funds to approved programs. For the current school years, for example, $8,017,840 will be distributed among school districts for the added costs of vocational programs. As will be remembered from Table 15, total state expenditures for secondary vocational education program last school year amounted to $23,111,566. The difference between categorical amounts generated and actual expenditures comes because vocational education students also generate regular foundation funds, which are used to support teachers and the normal materials and supplies. Categorical funds were intended to be directed at the additional costs associated with the programs.

For state-funded program, equipment represents in most cases a capital expenditure and as such, is even more difficult to secure than operating funds. As districts, the state-funded technical centers and the University system experience increasingly tight budgets, purchase of new or replacement equipment falls ever lower on the priority list.

Because secondary vocational facilities in smaller communities are often utilized by the local University of Alaska campus, the lack of equipment hinders both programs. For example, a welding program offered by Kachemak Bay campus was discontinued because of the state of equipment at Homer High School. In some cases, schools have been assisted by industry, which donates used equipment, most commonly as the industry itself moves to the next generation of technology.

Facilities

Vocational education programs often require specialized spaces, such as workshops and labs, which contribute to the added expense of such programs. Although Alaska boasts several world class facilities—such as the Job Corps Center in Palmer and the expanded UAA aviation program facility at Merrill Field—much of the state's vocational education infrastructure was built during the state's boom years. As with many state facilities, vocational education centers and other instructional spaces have suffered from deferred maintenance. In some cases, facilities are underutilized and cannot generate the tuition or other support needed for upkeep.

A new facility is soon to be added to the state system: the Galena Vocational Center which will utilize abandoned facilities of the former Galena Air Base. Ilisagvik College has also been the beneficiary of federal policy changes, utilizing the quarters formally built and occupied by the Arctic Research program.

Although no major concern emerged in this study concerning the need for new facilities, two institutions reported that program expansion was constrained because of lack of appropriate space. AVTEC's biggest need is for student housing. Tanana Valley Campus is seeking space for its automotive program and to rotate short-term training requiring shop space.

How does voc ed fit into other initiatives?

Quality Schools

Alaska's Quality Schools initiative has several components, including high academic student standards, quality professional standards, family, community and business involvement in student learning and school based accountability standards. All of these components impact and can be impacted by the secondary vocational education programs of the state.

Content standards for the basic academic areas, skills for healthy living and technology have been adopted by the State Board of Education. According to the Department of Education, these standards are "general statements of what Alaskans want students to know and be able to do as a result of their public schooling."

To date, standards have not been adopted for work readiness skills; however, the Department is working on these standards and expects to bring them to the State Board soon. There is ample evidence from needs assessments and employer surveys that the Alaskan public expects students to have acquired these skills as part of the schooling process. For example, a 1993 statewide assessment of nearly 100 educators, employers and policy makers concerning vocational education identified workplace ethics and employability skills as the most important components of vocational education[10]. A survey of Fairbanks and Interior Alaska area business people, also conducted in 1993 for UAF's College of Rural Alaska identified work readiness and basic academic skills as the two most important areas in which public schools could improve the quality of the workforce.[11] These conclusions were echoed in a recent (1995) survey completed for the Fairbanks North Star Borough School District.[12] A recommendation of this study, therefore, is that student standards be expanded to include the workforce preparedness and general employability skills expected to be acquired by all students. Assisting students to meet these standards is a responsibility shared by all grade levels and content areas, not merely secondary vocational education.

Career development is a second vocational-related area in which there appears to be general agreement that all students need to acquire competency. Career development helps students answer questions fundamental to a successful adulthood: who am I, where am I going, how do I get there and how do I function effectively? The Department of Education is currently developing standards for career development programs. Again, activities to help students gain these competencies begin in elementary school and crosses all content areas. Therefore, the Department intends that the career standards will be integrated into the current academic content standards.

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[10] Southeast Regional Resource Center, *Statewide Needs Assessment for Alaska State Vocational Technical Education*, November, 1993, p. 15.

[11] Northern Planning and Research, *Labor Market Assessment: Fairbanks, Dillingham, Bethel, Nome, Kotzebue, Interior Region*, UAF-College of Rural Alaska, May, 1993, p. 1.

[12] Stayrook, N. and Pineault, B., *Vocational Education: Opinions from Students, Parents and Local Business People on Voc Ed Programs and Career Education*, Fairbanks North Star Borough School District, May, 1995, p. 5.

The third area for which student standards are appropriate is in the occupational clusters covered by vocational education. These are not yet in place. The vocational education staff of the Department of Education are proposing that the state and the school districts develop these standards through participation in the Integrated System for Workforce Education Curricula (ISWEC) project of the Center for Occupational Research and Development. The ISWEC Career Cluster project is establishing for nine career cluster areas content areas standards which will integrate academic, employability, career development and occupational-specific skills. Because standard development is a time-consuming process, it may not be cost-effective to address all occupational clusters at once. Rather, the state should determine which occupational clusters are most widely demanded in the market place and most commonly taught in secondary programs. Adoption of standards for these programs would have two effects. First, the standards would strengthen vocational coursework by emphasizing high academic achievement and second, would strengthen the other curricular areas by providing additional, real-life applications for basic and higher order academic skills.

Performance standards for certificated staff recently adopted by the State Board of Education stress connecting content to practical situations outside school and to life, work and the community. Educators are also expected to partner with homes, businesses and the broader community. These activities have long been part of the repertoire of good vocational teachers. As schools develop programs to evaluate professional performance, vocational staffs can be a valuable source of expertise.

The third leg of the quality schools initiative is family, community and business involvement in student learning, while the final area is developing collaborations at the local level. Again, these are areas in which vocational educators have considerable experience.

In order for vocational education to impact the initiative, however, it must become more than marginally involved. One of the more disturbing findings which surfaced through the interviews conducted for this study was the perceived lack of leadership and direction for vocational education. Although the school reform movement—which includes the Alaska Initiative, Goals 2000 and School to Work—consists of elements long practiced by vocational educators, many of those interviewed felt that the movement was bypassing vocational education at best and at worst, engulfing it. Many interviewees cited the need for a strong voice which could articulate vocational education's role in school reform. Of particular concern was the need to preserve for secondary schools a place in occupational skill training.

Given the historical independence of vocational educators, it was somewhat surprising that most interviewees were willing to see a greater integration of vocational and general education. While some concern was expressed over the potential loss of categorical funding, most recognized that the trend at both the federal and state levels was to consolidate funding and to break down or eliminate earlier barriers to comprehensive planning based on student need. The vocational educators interviewed agreed that they must be able to defend their programs on the basis of student results rather than generation of categorical revenue. To do this, however, they called for assistance from and advocacy at the state level.

Tech Prep

Tech Prep is defined at the federal level as combined secondary and postsecondary education programs that

- lead to an associate degree or two year certificate;
- provide technical preparation in at least one field of engineering technology, applied science, mechanical, industrial, or practical art or trade, or agriculture, health or business;
- build student competence in mathematics, science, and communications (including through applied academics) through a sequential course of study;
- lead to placement in employment[13].

As can be seen from this definition, secondary and public postsecondary vocational programs are the essential ingredients for Tech Prep efforts in the state. Much of the planning and development of Tech Prep programs in Alaska can be traced to Carl Perkins funding, which provided earmarked funds through the Tech Prep Education Act.

Tech Prep has lead the way in Alaska in a variety of voc ed initiatives. For example, Tech Prep funds have provided training and support for academic and vocational teachers in developing applied academics curriculum and hands on, contextual learning. These programs have been part of school reform by encouraging schools to use innovations such as block scheduling to improve vocational education and applied academics programs.

Career guidance plays a significant role in Tech Prep programs through the development of a planned sequential course of study which includes a strong vocational component with future career goals in mind. Extending these services to all students is an important component of school reform. Tech Prep programs also anticipated the school to work movement by placing teachers into local businesses to see first hand how academic, work preparedness, and technical skills are used in the workplace. Regular academic teachers were then assisted in writing these skills into classroom applications.

Current articulation agreements between the two systems, which are displayed in the following table, bear out a considerable degree of joint activity in many areas of the state. Although not all of the listed programs meet the strict definition of Tech Prep, all indicate a fruitful collaboration between secondary and postsecondary instructors which strengthens both programs and provides expanded opportunities to students.

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[13] Bragg, D., (1994, June) as quoted by Deborah Huffman *in "Development of a Marketing Strategy for Matanuska-Susitna Tech Prep*, master's thesis, UAA, May, 1996.

Table 23: Articulation Agreements by Institution and Program Area

School District	Postsecondary Institution	Certificate/Degree Program Area(s)
Valdez	Prince William Sound CC	Marine Technology
Mat-Su Borough Schools	UAA-Mat Su Campus	Business Administration Accounting Computer Info Office Systems
Kodiak Island Borough Schools	UAA-Kodiak Campus	Marine Science/Fisheries Business
Juneau Borough School district	UAS-Juneau	Construction Technology Tourism/Visitor Industry Accounting Business Administration Business Info Systems
Sitka Borough Schools/Mt. Edgecumbe	UAS-Sitka Sheldon Jackson College	Public Safety Environmental Technology Health Occupations Child Development Education
Kenai	UAA-Kenai Peninsula UAA-Kachemak Bay	Instrumentation technology Petroleum technology Computer Electronics Small Business Management Computer Info Office Systems Child Development
Kenai	Alaska Vocational Technical Center	Diesel Engine technology Commercial Baking Automotive Heavy Equipment Industrial Electrical Maintenance Physical Plant tech Welding Tech
Anchorage School District	UAA- Anchorage Campus	Architectural Engineering and Drafting Aviation Maintenance tech Business Commercial Food Electronics Child Care Welding Technology
Nome City Schools	UAF-Northern Campus	Introduction to Health Introduction to Business Principles of technology Applied Academics
Fairbanks North Star School District	UAF-Tanana Valley Campus	Drafting Applied Business and Office Management
Iditarod, Alaska Gateway, Yukon Flats, Tanana, Galena, Railbelt (Denali), Yukon Koyukuk, Nenana	UAF-Tanana Valley Campus	Articulated Tech Prep (various courses)
North Slope Borough	Ilisagvik College	various course, tied to an Individual Education Plan (IEP) for each involved student.

Academics

Although a strong integrated academic curriculum has always been a feature of good vocational education programs, the quality schools movement has focused increased attention on assuring that all students meet high academic standards. In this thrust, a major area of coordination between vocational education and the regular secondary program is in applied academic courses. Applied academics are programs which use hands-on learning and real-life applications to develop high academic achievement levels in mathematics, communication and the sciences. Unlike the "business math" and "business communications" courses of an earlier era, which often accepted lower basic skill standards for non-college bound students, applied academic students are held accountable to the same standards as students in traditional academic classes. The use of such courses in Alaska is growing and currently 32 districts offer instruction in applied math, communications, physics and biology/chemistry.

However, many of the persons interviewed for this report expressed concern that applied courses at present are somewhat of a one-way street; that is, vocational educators are being asked to improve the academic content of their course offerings, but academic teachers are slower and more reluctant to increase the practical, real-world related content of their courses. Yet, a vital component of the school reform movement is to integrate work preparedness skills into the regular curriculum and to make much closer connections between the classroom and the employer community. To do this requires that academic and vocational staff have the opportunity at the local level to develop curriculum infusing theory with applied instructional techniques.

School to Work

School to Work (STW) is a new educational thrust directed at preparing all students to make a smooth transition from school to meaningful employment. As such, it takes traditional concepts from vocational education and seeks to infuse them into the general curriculum. Vocational education processes integral to School to Work include:

- assisting students to develop career plans
- imparting general employability skills and traits
- integrating hands-on learning and examples of real-life applications into academic areas
- developing skills specific to various occupational clusters
- connecting to the business community for program planning, work sites for learning, and authentic assessment of student skills

At present, districts are involved in STW efforts with varying intensities. Some districts are in the planning process, while others have begun to implement programs. The following table indicates those districts involved in the process. Planning and implementation grants are supported by federal School to Work moneys.

Table 24: School To Work Grants for FY97

	FY97		FY97
Planning Grants		*Implementation*	
Denali	10,000	Fairbanks	78,000
Copper River	15,000	Galena	77,500
Craig	15,000	Juneau	52,901
Delta	15,000	Kenai	78,000
Dillingham	10,698	Kodiak	78,000
Ketchikan	15,000	Lower K	73,000
Kuspuk	15,000	Mat Su	78,000
Petersburg	9,668	NW Arctic	77,500
Pribilofs	15,000	Yupiit	46,630
Valdez	15,000		
Wrangell	15,000	TOTAL-ALL	910,000
Chugachamiut	15,000		

An essential feature of School to Work initiatives is the involvement of a broad cross section of business and education interests in the community on School to Work Councils. The Kenai council, for example, is composed of 25 representatives of business, economic development agencies and local secondary/postsecondary educators. Mat-Su's school to work effort involves—in addition to employers and educators—parent organizations, local and state government agencies and student leadership organizations.

The Unalaska School to Work initiative has 24 identified partners covering organized labor, Native corporations and tribes, senior citizen groups, arts councils, the Boy Scouts and service organizations, in addition to the city, local educators and employers.

One of the most far-flung School to Work efforts involves Galena City School's Project Education, which is developing a regional boarding vocational technical school in the inactive Air Force base in the community. School to Work activities, such as job shadowing, job training, role playing and mentoring are planned as part of the project. Surrounding districts have signed agreements to actively participate in school to work by recruiting local employer-mentors. The cooperating districts are Yukon/Koyukok, Yukon Flats, Tanana, St. Mary's, Lower Yukon and Iditarod. Many of these districts are those which participated in the Integrated Tech Prep program with UAF-Tanana Valley Campus.

Yupiit School district is partnering with an adjoining district—Lower Kuskokwim—in implementing its school to work initiative. It is also forging agreements with UAF-Kuskokwim Campus and AVTEC.

As can be seen, some district efforts are an outgrowth of earlier activity funded through vocational education and vocational educators are assuming leadership of the process. Galena, Kenai and Lower Kuskokwim are good examples of this. In other districts, vocational education appears to be only marginally involved. Yet vocational educators, with their long history of applied learning, community involvement and performance-based assessment should be at the core of any education reform movement. At the very least, it would appear that close coordination and cooperation of the two efforts is essential at both the state and local levels. This is particularly true since STW funds are for a limited time only—three to five years in all—and are considered by both federal and state program managers to be "venture capital." That is, grant funds provide the seed money for forging cooperative agreements, reworking curricula, and developing work experiences. Once these are in place, districts are expected to support continuation out of existing operating funds.

School to Work programs can help fill a need commonly cited by vocational educators: increasing understanding among high school counselors that vocational education/ technical training is appropriate for both the non-college and the college bound. School to work can educate school counselors that good jobs are available to students who don't plan to go to college and can promote technical training, in particular Tech Prep programs, which has entry into college as the next step after high school.

One other area of potential school to work/vocational education synergy is identification of and program development in heretofore unexplored occupational areas. As students experience more effective career exploration and planning, as linkages between academic skills and real life become increasingly explicit, as all teachers discuss work opportunities in their content areas, schools will be called on to offer specific skill courses in a much broader range of occupations than at present. This aspect of school to work alone has the power to revitalize and transform vocational education, by making it central to the educational enterprise.

If vocational educators hold themselves aloof from the school to work initiative, there is some real danger that district commitment to occupational-specific skills for some students will be jettisoned in favor of attention to more general employability skill development for all students, even though it is clear that both sets of skills are needed. If other educators ignore the experience and expertise of vocational educators, the school to work movement could degenerate into an unrelated series of "real-life' episodes loosely grafted onto a business-as-usual traditional curriculum.

How does voc ed assist in transitions?

Vocational education is not an end in itself. At any level—secondary, certificate, associate degree or continuing education—the goal of the training is to place students in work. In some cases, additional training may be an intermediate step, but ultimately employment of completers in the field of training or a closely related field is the performance standard of quality programs.

In a world of rapidly changing technology and workplace demands, however, a quality vocational education delivery system also accommodates the movement from work into upgrading or retraining and then back into the workforce.

Finally, with today's insistence on welfare reform, a quality vocational education delivery system also needs to provide a bridge from dependency to self-sufficiency.

How well does Alaska's current system fulfill these function? Although not a full-fledged evaluation of the system, the current study utilized existing research and data to at least partially answer this question.

School to Work

Probably the best way of determining how well the system places graduates in related employment is to follow up the graduates themselves and find out what they are doing. The Alaska Department of Labor provides a comprehensive and fairly easy way of doing this by matching program completers against the Occupational Data Base, which contains occupation and place-of-work information for private sector, state and local government salary and wage workers in Alaska. The Department can also match against other data bases, such as the Permanent Fund Dividend files, occupational licenses, business licenses, fishing crew licenses and certain federal data files.

In the past several years, three major studies following up vocational education/training students have been conducted using this data: for AVTEC (1994 graduates), University of Alaska Vocational Education Students (1988 to 1991 enrollees) and the Alaska Student Loan Program (all borrowers between 1984 and 1992). The results of these studies shed some light on where vocational education students end up after training. These results are summarized below. Copies of the full studies can be obtained from the Department of Labor, Research and Analysis Section.

The follow-up of AVTEC graduates found that 77 percent of the 1994 graduates had wage or salary employment in Alaska in the year after graduation. Forty-six percent were employed in Alaska in an occupation directly related to their course of study.[14] Average after-training salaries were 52% higher for the total group. Alaskan Native student earnings increased by 57 percent and female student post-training earnings were 178 percent higher than before training.

The same study also updated figures for 1990, 1991 and 1992 graduates. The findings were that employment of graduates remained very stable for the years following graduation, particularly for Alaska Natives and women. Earnings continued to grow in the early years after graduation and then peaked in year 3 or 4 as graduates who had little or no earning before training brought their earnings up.[15]

The study for the University of Alaska followed up 46,910 students who had been enrolled in vocational education between 1988 and 1991. Of these, 258 had earned certificates and 806, associate degrees. The vast majority were either course completers

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[14] Readers should note that the match of jobs to training is not exact; therefore, reported figures may underestimate employment in related field.

[15] see Mosher, Hadland and Rae, *AVTEC: A Report on the Employment Status and Earnings of FY1994 Graduates*, ADOL, Research and Analysis, June, 1996

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(defined as earning 7 or more credit hours in vocational education) or specific interest students (defined as earning 6 or fewer vocational education credits).

Seventy-three percent of the students (34,151) were identified as working in Alaska during the two years following completion of enrollment. An additional 2,900 were working for the federal government either in Alaska or elsewhere, while another 1,668 had obtained some sort of state license—occupational, business or fishing crew—which may have been used for self-employment. Although most of the wage earners were located in Anchorage, Fairbanks or Juneau (52.5 percent), former students were employed in all sub census regions of the state. Overall, about 53 percent of the employed students were working in an occupation closely related to their course of study. Business, human services and early childhood education students had the highest percentage of former students employed in an occupation closely related to their field of study.

The study for the Postsecondary Commission followed up all borrowers, regardless of course of study. Of a total sample of 40,728 former borrowers 52 percent had wage and salary earnings in Alaska during the 1992 calendar year. An additional 1,877 were found to be working in the state of Washington, through a match with that state's wage files.

A comparison of field of study and area of employment revealed that the following percentages of borrowers were working in a field related to their area of study:

Table 25: Percentage of Borrowers Employed in Field of Study (1992)

Field of Study	% Employed
Therapy	79.1%
Technician/repair	69.0%
Heavy equipment operation	62.2%
Food service	57.6%
Truck operation	54.1%
Bartending	22.4%
Cosmetology/hairdressing	23.0%
Computer programming	17.1%

The low match for cosmetology students may well be accounted for by the fact that many license-holders in the industry are self-employed and would not appear on wage files.

The above studies, all of which indicate relatively high rates of successful transition from school to work, focus on postsecondary training. The only similar study involving secondary students has been with Anchorage King Career Center graduates[16]. This study followed up 259 students who had completed three or more credits in an occupational cluster in 1987. Students were matched against DOL wage and salary data bases for the years 1987-1990. The study found that

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[16] Wilson J, Hadland J, and Vinson F, *Employment Status and Earnings of 1987 Vocational Program Completers, Martin Luther King Career Center, Anchorage, Alaska*, Alaska Department of Labor, Research and Analysis, September 6, 1991.

- in-state employment of program completers peaked in third quarter 1987 (the fall after completing school in spring), with 61.4 percent having wage and salary employment;
- 1990 median annual earnings for completers significantly exceeded those of all resident persons in their age group in the Alaska work force, both overall and by sex;
- most of the wage and salary workers (80.7 percent) were employed in the Anchorage Borough; and
- one-fourth of the completers were employed in 1990 in industries or occupations related to their course of study.

With respect to the last point—employment in an occupational related to the field of study—results varied significantly among occupational clusters, as seen in the following table:

Table 26:
1990 Employment in Occupation Related to Field of Study
King Career Center Graduates

Occupational Cluster	% employed in related occupation in 1990
Automated Office Occupations	75.0
Child Care	40.0
Construction	36.3
Aviation Maintenance	35.7
Auto Mechanics/Body	35.5
Computer Programming/Operations	33.3
Tourism	28.6
Cosmetology[17]	20.0
Surveying	20.0
Health Occupations	7.1
Graphic Arts and Communication	3.8

Because many secondary students go on to further education and training, results from the King Career Center follow-up cannot be compared directly with results from post-secondary training. However, the results are interesting on their face. For example, several areas which have been considered high growth (tourism and health occupations) had relatively low placement rates. Traditional areas, such as auto mechanics and construction, which have been sometimes denigrated as no longer relevant, had better placement rates than some of the more up-to-data courses such as graphics and computer operations. Before much is made of these results, it should be remembered that the study followed up a small number of students and that both the King Career Center and its graduates have the advantage of the Anchorage economy. If other districts or the state conducted similar studies on a regular basis, the data generated could either confirm are refute these findings and would provide an extremely valuable source for program modification and improvement.

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[17] as with the postsecondary survey, cosmetology is no doubt underrepresented because graduates are often self-employed.

Although not follow-up studies, the statewide and Fairbanks area needs assessments referred to earlier in this report and a student survey conducted for the Northwest Arctic School District in 1996 provide some further indication of performance.

Business responses in the needs assessments indicate concern over skill levels of applicants, particularly basic academic skills and work readiness. Computer skills were also cited. Almost half of the respondents in one study reported difficulty in finding entry-level workers with these skills. The student survey reported that while most students (79 percent) thought that "learning about jobs and how to get them" was "very important to me", only 22 percent thought that "I am very good at it". More students reported that they were "not good" at this skill than any of the other 20 academic/life skills listed.[18]

School to School

Particularly at the secondary level, program success often means placing completers in further training. Because there has been no consistent follow up of high school graduates in Alaska, it is difficult to determine how successful secondary vocational programs have been in this respect. The articulation agreements between school districts and neighboring postsecondary institutions are designed to strengthen this area. For the most part, these agreements have been entered into only recently so that it is too early to tell if they will achieve their purpose. However, preliminary information indicates that too few students are aware of these agreements. School counselors may need to become more active in explaining these opportunities to students and encouraging them to enroll in the program.

Reports by postsecondary vocational program operators identify some of the same problems with high school completers that businesses have identified, namely a low level of academic skills, particularly in math. One of the rationales for tech prep programs is that students entering college from a tech prep course of study will be prepared to master advanced courses, thus decreasing the need for developmental courses at the postsecondary level.

Some school-to-school transition difficulty is expressed in the NW Arctic student survey cited above. Although 72 percent of the students questioned said that they planned to attend college after high school, less than 50 percent indicated that they would have completed some college, one or more semesters of college, an associate degree or a bachelor's degree five years after high school graduation. Only 14 percent indicated that they would have completed a vocational or technical certificate in that time.

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[18] Seyfrit C., *Survey of Alaska High School Students-1995: Preliminary Report*, Northwest Arctic School District, p. 11.

Work to School

While no data was found concerning movement from work to school, the DOL studies cited above contain some hints. For example, the study of University of Alaska vocational students found that nearly half of the employed students worked for the same firm before and after training. The report concludes that "this is consistent with a student population upgrading their skills in order to make themselves more valuable to an employer or eligible for promotion."[19]

The AVTEC study also indicated a high level of employment prior to entering the program. Of the 171 graduate in 1994 who had earnings after training, 169 had been employed for at least one quarter in the year prior to training. Clearly these findings indicate substantial movement between work and school on the part of individuals.

Postsecondary institutions also provide short term or special program for specific industries which train current employees. Examples are the Alaska Technical Institute's millwright program for employees of the Red Dog mine, AVTEC's work with the chemical fertilizer plant in Nikilski, Ilisagvik College's occupational safety courses for North Slope Borough employees, and PWSCC's program for oil industry employees. Almost all of the postsecondary institutions in the state conduct similar short-term industry specific program for skill upgrading. Persons interviewed for this report, however, cited significant problems in mounting such programs. For some institutions, getting a program approved is a time-consuming process which inhibits flexibility. For institutions subject to state budget procedures, getting permission to receive and spend additional revenues requires significant lead time. Most institutions—both public and private—reported difficulty in getting experienced staff on short notice to conduct such programs. Access to appropriate instructional space and equipment also reported as a problem.

Welfare to Work

The vocational education delivery system of the state has some experience with assisting welfare recipients transition from dependency to work. While no follow-up of such clients was unearthed in the course of this study, many of the program operators interviewed shared their experiences.

The experience of Job Corps, AVTEC, JTPA and Carl Perkins grantees confirm that in order for this transition to be successful, several elements are needed: basic and occupational skills development, attention to attitude and job readiness skills, and provision of support services. Programs that work well appear to be a mix of individual career planning, group support and mentoring, along with classroom training.

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[19] Hadland J., Elliot B., and Tromble K., *Employment and Earnings Follow-up Study, University of Alaska Vocational Education Students*, ADOL/UA Statewide Office of Vocational and Technical Education and Office of Institutional Research, April, 1994, p. 11

Programs containing these elements indicate a relatively high placement rate. Job Corps program in Palmer serves students ages 16 to 24, about 35 percent whom are on public assistance. Of the 674 students who have terminated the program, 83 percent have been placed. This placement rate includes program drop outs as well a completers. AVI reports an 80 percent placement from its 22 week Office Skills program.

JTPA programs for economically disadvantaged adults (Title IIA) reported the following results for the past fiscal year.

Table 27: JTPA Placements[20]
FY96

JTPA Area	Total enrolled	Total Public Assistance	% Public Assistance	Total Completed	% of Enrolled	Placed in employment	% of Completed
Statewide	379	157	41.1%	234	61.7%	133[21]	56.8%
Fairbanks	107	71	66.4%	44	41.1%	24	54.5%

The AVTEC annual report on its single parents/displaced homemaker program, many of whose clients are welfare recipients, explains some of the difficulties in serving this population. Many of the problems that arose were related to children of students that became sick, required medical attention or needed a ride to or from daycare. Other needs that were addressed during the school year included basic eye and dental needs, parenting skills, and referrals to other agencies. The center also held large groups discussions on such topics as stress reduction, alcohol abuse, sexual harassment and life skills topics. Even with these difficulties, however, the program reported an 85 percent placement rate for completers, due in large part to the intensive one-on-one assistance of program staff.

Vocational education programs at the secondary level which deal with single parents focus on preventing the transition from school to welfare. Such programs encourage high school completion and the acquisition of parenting and job readiness skills. Many of the program completers transition to an adult training programs such as JTPA for occupational skill development. Fairbanks School District's OPTIONS has won state and national recognition in this area. The Mat-Su Alternative School, also recognized statewide and nationally, has been successful in moving minor parents and at-risk students to work and further education. Both of these programs could serve as models for transitioning in-school teen parents from welfare to work.

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[20] Source: JTPA annual reports.

[21] an additional 100 completers enrolled in further education after JTPA program completion.

How well do current programs match:

Anticipated new job areas

Vocational education is directed at preparing students for work. To be successful, then, programs must be focused in areas for which entry-level employment opportunities are good. While this principle may appear to be obvious, it is worth enunciating.

All approved secondary programs are required to report how they determine the labor market needs to be addressed through their training. The most commonly-reported mechanism is that of an advisory council made up of local employers. Another reported practice is to use labor market projections from the Alaska Department of Labor. Most postsecondary programs also reported the use of advisory councils and labor statistics in evaluating current programs and developing new ones.

A problem faced by all program vocational evaluators and planners is how to define the labor market being served. Should programs focus on the local, regional or state labor market? Should national or Pacific Coast labor market needs be considered? Given Alaska's geographic, cultural and demographic situation, these questions present very difficult choices.

For areas outside the major urban areas, for example, local economies may not be able to absorb all program completers. Yet, students may not by willing to relocate to obtain employment elsewhere. While this situation is often cited as characteristic of rural, bush Alaska, it is also true in many of the small communities of Southeast Alaska. Even regional economies is some parts of the state may not provide sufficient job openings to place program graduates. For these reasons, many programs, particularly at the secondary level, focus on statewide needs.

The Department of Labor's *Occupational Outlook* reports on Alaskan occupations which are expected to show strong demand through 2005.

Table 28: Occupations with Highest Projected Increase in Employment by Education Level through 2005[22]

Occupation	No.	Occupation	No.	Occupation	No.
Associate Degree					
Registered Nurse	779	Dental hygienist	268	Medical Record Tech	109
Petroleum Tech	79	Paralegal Personnel	74		
Postsecondary Training					
Aircraft Mechanics	474	Hairdressers	431	Secretaries[23]	373
Travel agents	340	Welders/Cutters	202		
More than 12 months training[24]					
Maintenance/ Repair	99	Pilots/ Flgt.Engineers	617	Carpenters	357
Cooks	343	Auto Mechanics	327		
Less than 12 months OJT					
Sports/Training Inst.	439	Dental assistants	349	Loading Machine Op.	280
Sales Reps	222	Painters/ Paperhangers	183		
less than one-month OJT					
Salespersons	1,869	Cashiers	1,295	Combined Food	1,126
Waiters/Waitress	873	Receptionists	748		

The above table indicates the restrictions of the Alaska job market. Labor economists predict that by the year 2005, one out of every 10 Alaskans will be employed in one of the four following occupations: retail sales, general managers, cashiers and combined food preparation/service workers. With the exception of managers, none of these occupations requires extensive training.

In the growth areas which do require training, the state offers at least one program in all of those requiring associate degrees or postsecondary training. The location of these programs by region and by operating institution have been given in the earlier charts. Training is also offered for many of the occupational areas requiring more than one month of on-the-job training. Whether or not these programs have sufficient completers to meet demand is an issue, however, since many of these occupations are characterized by significant employment of non-residents, indicating the Alaskan labor force does not contain sufficient numbers of trained participants. This concern is covered at more length below.

While training is provided for emerging labor market needs, a related question is if all training is directed at such needs. In other words, are there program which continue to operate even though there is little or no projected demand for completers? DOL data also reports on occupations expected to decline over the next decade. Among these occupations are several for which training is currently being provided: typists (including word-processing), computer operators, surveying and mapping technicians, electronic repairers and statistical clerks. All are expected to show a negative growth rate of between 2 and 6 percent.

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[22] Wilson, J. and Rasmussen, D., "Alaska Occupational Outlook to 2005", *Alaska Economic Trends*, December, 1996.

[23] Except Legal and Medical.

[24] On-the-Job or formal.

On the secondary level, enrollments in typing and computer applications account for 11.8 percent of the total course enrollment (4,479 out of a total of 38,397). If unduplicated counts were available, this percentage may be higher as many collage-bound students enroll only in these vocational classes. Secondary school enrollment in bookkeeping and basic electronics classes, however, is minimal.

Because large numbers of secondary students can be expected to leave the state after graduation, it is reasonable to compare vocational training in Alaska with that of the nation as a whole. The ISWEC Career Cluster project cited above has redefined traditional career clusters to more closely match emerging workforce needs in the nation. Secondary enrollment in these clusters is displayed in Table 29, together with an indication of the percentage of the current enrollment that is in these clusters.

Table 29: Alaskan Secondary Vocational Enrollment in ISWEC Occupational Clusters
1995/96 School Year by Race and Gender

	White		Black		Hispanic		Asian/ Pac. Is.		AK Native		
Cluster	**M**	**F**	**M**	**F**	**M**	**F**	**M**	**F**	**M**	**F**	**Total**
Business, Marketing and Management	1,277	1,650	91	136	53	78	132	152	437	583	**4,589**
Engineering and Science Related	848	330	25	7	16	9	23	21	137	79	**1,495**
Health Occupations	50	92	10	18	5	11	7	11	5	16	**225**
Community and Consumer Services	86	264	24	61	12	19	17	45	44	81	**653**
Arts, Media and Communications	559	494	53	41	22	29	34	51	247	252	**1,782**
Agriculture, Forestry and Nat. Resources	237	93	4	0	1	0	3	5	165	124	**632**
Construction Occupations	349	29	20	0	12	1	9	2	238	68	**728**
Service Technician	1,422	157	64	5	33	8	57	14	472	141	**2,373**
Manufacturing and Production Related	2,460	501	85	19	44	8	113	21	529	158	**3,938**
Non-Assignable[25]	2,639	2,207	307	215	113	101	142	137	784	674	**7,319**
Total ISWEC	9,927	5,817	683	502	311	264	537	459	3,058	2,176	**23,734**
Total Course Enrollment	14,343	10,301	1136	899	490	472	915	907	4,923	4,011	**38,397**
% existing/ISWEC	69.2%	56.5%	60.1%	55.8%	63.5%	55.9%	58.7%	50.6%	62.1%	54.3%	**61.8%**

Table 30: 1995/96 Vocational Enrollment in Courses not Assignable to ISWEC Clusters

	White		**Black**		**Hispanic**		**Asian/ Pac. Is.**		**AK Native**		
Existing Cluster	**M**	**F**	**M**	**F**	**M**	**F**	**M**	**F**	**M**	**F**	**Total**
Life Skills	1,951	2,493	284	240	101	113	212	264	603	906	**7167**
Basic Tools	556	153	9	0	7	0	16	7	554	252	**1,554**
Basic Computer Literacy	1796	1,800	159	157	69	94	142	166	639	635	**5,657**
Total non-ISWEC	4,303	4,446	452	397	177	207	370	437	1,796	1,793	**14,378**

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[25] Includes work study and applied academics, which are work-related but cannot be assigned to any particular occupational area.

Certainly, the skills being acquired in the programs listed in Table 30 are important to successful adult living. However, they are skills which should be acquired by all students in the regular educational programs offered by the schools of the state. Once these general skill programs are factored out, less than two-thirds (61.8%) of existing secondary vocational education programming in the state of Alaska is directed at occupational clusters identified as important for projected labor needs nationwide

A final area to be addressed is how well current programs are anticipating occupations which are so new that they do not yet appear in market-demand studies. One example is in Web-site creation and development. Mt. Edgecumbe—recognized as a state leader in technology education—is equipping students with high-level computer application skills which will allow them to respond to emerging opportunities.

Many of these new areas are suited for self-employment and reinforce the adage that many of today's students will create their own jobs rather than work for an established firm. In acknowledgment of this fact, the Department of Education several years ago provided funding and leadership to develop entrepreneurship programs in secondary schools. Currently, 11 districts offer some sort of entrepreneurship training, but the total course hours generated are only 155 statewide.

At the postsecondary level, small business courses are offered on most campuses. Some of these are directed at new or emerging opportunities. For example, special courses have been offered at Kachemak Bay campus in art marketing to assist local artists access a wider audience. Sheldon Jackson College has introduced a small business minor which it recommends for students in various majors to help them explore and develop self-employment opportunities in their own fields.

As Alaska moves from am extraction economy to a service economy, perceiving needs, planning a response and implementing a service become increasingly-important employability skills. It would seem therefore important for secondary and postsecondary training programs to emphasize these skills throughout the curriculum.

Turnover in current jobs

The relatively low projected growth in jobs in Alaska over the coming decade presents a rather bleak view of opportunities for graduates of many existing vocational programs. However, most hiring in the state is in already-established jobs. New hire information provides another look at training needs. Among the top 20 occupations for new hires through fourth quarter 1995 (the latest information available), the following require some vocational training.

Table 31: New Hires (1995)

Occupation	1995 New Hires[26]	Occupation	1995 New Hires	Occupation	1995 New Hires
Admin. Support	6,722	Construction	3,532	Transportation	2,062
Mechanics	1,562	Protective Service	744	Health Tech.	272

Other occupations with a high turn over rates (and therefore a high rate of new hires) are mining, retail and services.

Non-resident hire job areas

Perhaps the greatest potential growth area for placing Alaskan vocational education completers in employment is in those industries which currently employ a high number of non-residents. Of the 15 private sector occupations with the largest number of non-resident new hires in 1995, several require some occupational-specific training: food and beverage preparation, carpenters, and general office occupations.

Secondary school enrollment in vocational education relevant to these three industries are Carpentry, 278 or .07 percent of the total, Office Occupations, 7,824 or 21.1 percent and Commercial Food Preparation, 248 or .06 percent.

Other occupations with high numbers of non-resident workers are the construction trades, air/water transportation and transportation services, business services, auto repair and health services.

Although some vocational training is provided in the state for these industries, the need to increase such training—with the expressed intention of replacing non-resident hires—is termed as critical by the Knowles administration. While the problem has long been recognized, it is not going away. DOL reports an increase of 25 percent in non-resident hires in the oil industry between 1993 and 1995. Almost 25 percent of total hires in the construction industry are non-residents. In the seafood industry, more than three-fourths of all workers are non residents.

To help address this problem, several measures have been introduced. A working group of administration and oil industry officials has been established to address issues related to increasing resident hire in this industry. The STEP program has given top priority for grant funds to programs with this mission and has funded several programs with CDQ partners in seafood processing. The Department of Labor has established a seafood employment coordinator to network between local employment service office, seafood processors and Alaskan job-seekers. These efforts have had some success in placing Alaskan workers in higher-skilled seafood processing jobs (such as roe technicians) previously held by non-residents.

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[26] Figure is the four quarter average for the year.

The Alaska Human Resource Investment Council (AHRIC) is developing "business learning consortia" which will include academia, business, labor, workforce development specialists, training providers and secondary/postsecondary institutions. The first consortium will focus on the seafood processing industry. AHRIC is also exploring arrangements with the Alaska Housing Authority which would provide training for rural residents in construction skills on-the-job at an Authority housing project site. If implemented, the program could replace significant numbers of non-resident construction workers with local hires.

Although some strides are being made, problems remain. Oil industry projections through 2000 are for substantial demand for ironworkers, electricians, pipefitters, module fabrication/NS installation and instrument technicians. But in most cases, demand is not steady, fluctuating by several hundreds of workers between one quarter and the next in some occupations. Unless Alaskan workers have some means of support during the down periods, many of these jobs will be filled by out-of-state residents. For occupations with a fairly steady demand, such as instrument technicians, the industry is looking for an in-state institution which can offer quality training, tailored to the industry, in a rapid-response mode. As mentioned earlier, there are significant internal and external constraints on public training institutions which inhibit meeting this demand.

III. ISSUES AND RECOMMENDATIONS

What are the duplications/gaps in the system?

Given the geographic and demographic characteristics of the state, there does not appear to be much unnecessary duplication of vocational training efforts, particularly of high costs programs. For the most part, particularly at the postsecondary level, certain institutions have assumed statewide responsibility for program delivery. A case in point is the assignment of major health occupations efforts to the Anchorage campus of the University. Other examples are the instrumentation program at Kenai Peninsula, the refrigeration/ heating program at Mat-Su and the medical records program at Sitka. The new Learning Cooperative for distance education at the University should help reduce duplication even further by delivering strong programs from one campus statewide via telecommunications, e-mail and other technology.

For communities with postsecondary faculty and facilities, there has in the past been some duplication between secondary and postsecondary programs. Tech prep programs have helped to alleviate this by more clearly defining the role of each institution in an articulated program. However, these agreements need to involve more students statewide before faculties and facilities will be fully utilized.

It is not clear from the data where gaps exist in the programs offered. A review of employment trends indicates that training is offered somewhere in the state in all of the high growth/high turn over areas, either by unions, private career institutions or the public education system. However, that more efforts need to be made seems clear from a look at non-resident hire figures. While not all occupations employing large number of non-residents are appropriate for training, some are. Additional efforts should be made to identify these and to develop and market appropriate programs.

Secondary programs, in particular, should examine the non-resident hire information, since many of the occupations with high rates require only limited skill training which could be provided at the high school level. Since many of these jobs are also seasonal, they could provide summer opportunities while the student is in high school for developing the work ethic and employability skills cited as important by almost all employers.

With respect to gaps at the participant rather than the program level, there is still a significant difference in vocational education participation patterns of males and females in technical programs. At the secondary level, where gender equity efforts have occurred for over a decade, only 18.8 percent of the 11,823 course hours earned in trade and industrial education in FY96 were earned by females. Of the 2,501 in the more technical occupations under trades and industry, only 36 percent were earned by female.

There is some indication of gaps between what students in the Lower 48 are exposed to in vocational education and what is being offered in the state. As indicated above, almost 40 percent of what is classed as vocational education in the state's high schools does not fit into the career clusters identified by the ISWEC Career Cluster project. These clusters may not be totally reflective of labor market trends, but they do indicate that at least a portion of current vocational education may no longer be relevant to the job market. If these classes are found to teach valuable pre-employment skills, such as good work habits and proper tool use, they may need to be retained but should perhaps no longer be classified as vocational education.

A final "gap" is less of a gap than of a missed opportunity. Alaska has some unique training resources which could be marketed successfully to the Lower 48 and even international markets. For example, fisheries and marine technology programs in Southeast already attract a relatively large number of non-residents. Programs in northern technologies should also have an appeal outside of the state. The UAA-Kenai agreement with Sakhalin Island for petroleum technology training is a good example. Arctic research programs at UAA-Fairbanks yield information which could be packaged into programs to train skilled workers for protecting northern environments. UA programs on water/waste water management for rural Alaska have application for other circumpolar countries. World-class facilities such as the air traffic controller simulation unit in Anchorage have the capability of attracting students internationally.

Marketing state training resources elsewhere may run into difficulty politically if they are perceived as taking opportunity away from residents. However, importing non-resident students for specific vocational education programs can be a way of securing additional resources for high cost programs with only limited market demand in-state.

What are the emerging challenges?

As indicated in the above discussion, several significant trends are impacting the vocational education system of the state at present. From information gathered by this study, the most pressing of these are the

- Quality School Initiative
- School to Work
- Welfare reform
- Non-resident hires
- Carl Perkins Reauthorization/Consolidated Plan
- Program Leadership

Each of these trends presents challenges to the current system.

The *Quality Schools Initiative*, with its emphasis on high student and teacher performance standards, provides new opportunities for close collaboration between the regular academic program and vocational education. Through applied academics, vocational education can assist in the upgrade of general academic competencies. By establishing career development, job readiness and occupation-specific competency standards, vocational programs can contribute toward graduating students from high school with the skills demanded in the workplace.

School funding reform proposals which are part of the Quality School Initiative make such standard development imperative. The funding proposal introduced this legislative session by Governor Knowles at the request of the State Board of Education folds previous categorical funding categories into a "Basic Student Allocation" which represents funds formally allocated separately for vocational education, bilingual education and special education. Districts would be free (as they are in fact now with categorical funds) to allocate the basic student allocation in any manner determined necessary to meet local program goals.

The challenge of this new system to local vocational education programs in the near future may be more perceived than real, since the legislation includes a three-year hold-harmless provision, whereby no district would receive less funding that it does at present. However, vocational educators fear, with some reason, that once the link is broken between approved vocational courses and the generation of additional funds, local districts will reduce an already declining fiscal commitment to vocational education. After the three-year hold harmless provisions disappears, the perceived threat to voc education programs becomes quite real, in particular for those districts which have in the past received a considerable amount of additional funding for vocational education. In some ways, vocational education directors who have succeeded in building up programs locally are in the most delicate position, since their districts will probably see a decline in overall funding (particularly is the district has also claimed high numbers of special education, gifted, and/or bilingual students in the past.)

To illustrate this point, suppose a district had been receiving $100,000 for regular instruction under the current system. In addition, by building up its vocational education program and identifying a large number of high need students, the district received an another $50,000 from current categorical programs. Under the proposed legislation, this district would continue to received $150,000 for the first three years, but then would be reduced to $100,000 for basic instruction plus 20 percent for "special need", or to a total of $120,000. It appears obvious from this example that in Year 4, some programs or services will be dropped to balance the budget. Under such a funding system, all prior categorical programs must provide compelling justification for their continuation in terms of generally-agreed-upon performance standards. Programs unable to do so could take a disproportionate share of the needed cuts.

School to Work is another challenge facing vocational educators, particularly those at the secondary level. While voc ed programs share many goals and procedures with STW efforts, the latter has a much broader scope in that it affects all students. Unless vocational educators become an integral part of the local planning and implementation of these efforts, there is some danger that occupational-specific instruction for a limited number of students will be neglected in favor of more general work readiness education for all. Yet, without opportunities to develop strong occupational skills in the secondary program, some students will not successfully transition from school to work. In addition, unless vocational and general educators coordinate their efforts with local businesses and agencies, it is possible that existing vocational education work experience, cooperative education and on-the-job training sites will be saturated or lost. Finally, School to Work can build on the expertise of cooperative education programs which have been placing students in work sites for decades. Many of the issues concerning supervision, insurance, transportation, etc., which are concerning School to Work site mentors have already been successfully addressed by vocational educators.

But the greatest reason for close involvement with school to work is the potential to revitalize vocational education by making it central to the secondary school enterprise. During this transformation, vocational educators may give up some of the characteristics which have traditionally defined the field—targeted funding, special advocacy, separate plans and regulations. This is causing and will continue to cause some uneasiness among practitioners. What vocational education stands to gain, however, is substantially more than it is losing.

Welfare reform is on the minds of almost all current providers of vocational education and training in the state. Universally, providers expressed concern at the demands that will be placed on the economy as the public assistance system seeks to place more than 4,000 people in work over the next fiscal year.

Activities which count as work participation are clearly delineated in federal legislation. To be counted as participating in work, an individual must participate in one or more of the following activities for at least 20 hours per week:

- unsubsidized employment
- subsidized private sector employment
- subsidized public sector employment
- work experience (only if sufficient private sector employment is not available)
- on-the-job training
- job search and job readiness assistance for up to six weeks (no more than 4 of which can be consecutive)
- community service programs
- vocational education training (not to exceed 12 months for any individual)
- provision of child care services to an individual who is participating in a community service program

After the first 20 hours per week has been satisfied by any of the above requirements, individuals may participate in the following:

- job skills training directly related to employment
- education directly related to employment, if the persons has not completed high school or received a GED
- satisfactory attendance at secondary school or education leading to a GED

- job search and readiness (once the individual has exceeded the six week limit).

No more than 20 percent of individuals counting toward a state's work rate in any one month may meet the requirement by participating in vocational training or being an in-school teen parent. For 1998, about 850 public assistance clients would be eligible for training, including high school completion on the part of teen parents.

One additional problem presented by welfare reform legislation is the lack of definition of vocational education. Therefore, states are apparently free to chose between traditional vocational programs or short term vocational training or a combination of both. Given some of the problems identified above concerning institutional flexibility to respond quickly to demands for short-term courses, how eligible vocational education is defined can have significant impacts on the existing system.

Although the state could allow training for this number, it need not do so. All states have the option of placing people in work without training—the so called "Work First" philosophy. Essential assumptions of this philosophy are

- the best way to succeed in the labor market is to join it
- work habits and skills are developed on the job rather than in the classroom
- any job is a good job and can be a stepping stone to a better job
- for those unable to find work tight away, additional activities are geared to moving participants to work as quickly as possible
- these activities are short-term, closely monitored and immediately followed by additional job search.[27]

Many of those interviewed for this report expressed reservations about the Work First approach. As mentioned above, the current system has considerable experience in attempting to assist individuals more from welfare to work. All involved with these program stress the need for attention to attitudes, life skills and social development prior to job placement. Given the fact that the new laws limit lifetime participation in the welfare system to 60 months, it seems imperative that the first attempt at transition from public assistance to work be as positive as possible. Failures will not get many more chances.

As described above, the issue of replacing *non-resident hires* with Alaskans presents a significant challenge for the existing system. Among problems to be solved are how to increase the ability of both public and private vocational educators to respond to industry demands, particularly in highly-technical fields and how can Alaskans participate in occupations which experience seasonal or cyclical demand. A partial answer to the last question may be to combine paid employment with subsistence in rural Alaska. In other areas such as seafood processing, it is becoming possible for trained people to have almost full-year work by "following the species"; e.g., moving from salmon to herring roe processing. Other ways of helping workers deal with uneven workforce demand need to be explored.

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[27] from a presentation on welfare reform given by James Norland, Director of Public Assistance, to the Alaska Human Resources Investment Council.

Carl Perkins reauthorization represents another challenge identified through interviews and data. As mentioned several times above, Perkins funds have provided the major source of planning and development capital available to public and non-profit training institutions. Without these funds, the flexibility of the system—already limited by other constraints—will be further impaired.

Perkins funds can also fuel the comprehensive reform effort described above which has at its core the integration of academic and occupational, theoretical and applied learning for all students. The Council of Chief State School Officers, in recommending reauthorization of the Perkins act, makes this relationship explicit. The Council calls for linking the act "with the comprehensive reform agenda toward achievement of the National Education Goals, and with the planning and implementation of coherent school to work systems and frameworks for employment and training programs."[28]

A related issue is the Consolidated Plan approach contained in the federal Goals 2000 program. Under the program, a district with an approved plan to achieve one or more of the Goals may combine and commingle federal categorical funds, including Carl Perkins moneys. This provides a heretofore unheard of opportunity for local districts to develop an integrated plan of school improvement, including improvement of students' work readiness and occupational skills. It also serves to remove the categorical protection from vocational education at the federal level. Whether this is a curse or blessing depends in large measure on how well vocational educators exhibit that their programs are integral to high student achievement.

Program Leadership emerged as an issue during the course of interviews conducted for this study. Vocational educators and vocational students expressed concern that they and their programs were being overlooked in the school reform efforts currently taking place. Several interviewees noted the reduction in DOE vocational staff, the loss of a separate state-level advocacy board, the moves to eliminate categorical funding at both the state and the federal levels and the reorganization of the University system as evidence that the state's commitment to vocational training was waning. Yet, all those interviewed expressed a strong belief in vocational education's importance to education renewal as well as to the economic development of the state.

What most practitioners are asking for is a clear vision of how they can fit into the initiatives underway. Adoption of state standards for workforce preparedness, career guidance and occupational-specific skills would help provide this vision. Support and guidance to vocational educators as they work out new roles is also needed.

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[28] Council of Chief State School Officers, *Recommendations for the Reauthorization of the Carl D. Perkins Vocational and Applied Technology Education Act of 1990*, November 13, 1994, p. 1

What can be done to improve the system?

From the information reported above and from interviews conducted for this study, three broad themes for program improvement emerged:

- embrace school reform efforts
- engage in the state's economic development agenda
- provide leadership and resources.

Under each of these themes, recommendations surfaced for programs, institutions and the state.

1. Embrace School Reform Efforts

At the program level

Recommendation: Vocational educators must become actively involved in assisting schools to teach employability skills, integrate academic and practical learning, provide occupational-specific skill training and connect classrooms with the community. This applies to postsecondary as well as secondary programs.

Recommendation: The learnings from vocational student leadership organizations concerning assessment by doing and performance judged by persons outside of the school community should be considered by other curricular areas.

At the institutional level

Recommendation: Governing boards of school districts and the University system must recognize the value of vocational education in meeting school improvement goals. Commitment to quality vocational training should be a part of each institution's mission statement.

Recommendation: Once workforce readiness and career development standards are adopted by the State Board of Education, local districts should integrate these standards into current graduation requirements.

Recommendation: University of Alaska system should continue to offer crucial teacher and program support to local secondary vocational education programs. This includes providing academic and hands-on training experiences for prospective and current vocational educators; assisting is statewide curricula development and performing action research on program performance.

Recommendation: Opportunities for demonstrating performance and developing leadership offered by VSLO's should be supported at the local level and expanded to other areas of student performance.

At the state level

Recommendation: Performance standards for all students in the areas of career development and work readiness, which are currently under development, should be adopted by the State Board of Education. These standards should follow the recommendations of the Council of Chief State School Officers, in the document cited above, for "internationally-competitive content and performance standards that link academic and occupational development, reflect the needs of employers, and assure occupational education is part of the core learning for all students."[29]

Recommendation: A commonly-accepted set of career clusters should be adopted covering occupational areas in demand or projected to be in demand by the Alaska labor market as emerging/growth occupations, new hires in existing occupations or replacements of non-resident hires. Student performance standards, which integrate academic, employability, career development and occupational-specific skills, should then be developed and adopted for these clusters.

Recommendation: Performance of all public secondary and postsecondary programs should be measured periodically in terms of student post-training job placement; earnings; enrollment in certificate and degree programs; continuation to apprenticeship or other training programs; and other agreed-upon measures of success. Resources such as the Alaska Department of Labor wage and salary files should be utilized to assure comparability of results across programs and comparison groups.

2. Engage in the state's economic development agenda

At the program level

Recommendation: Training institutions should examine ways in which they can support state efforts to reduce non-resident hire.

Recommendation: In line with the previous recommendation, training institutions should seek ways to assist students combine seasonal or cyclical skill employment either sequentially or with subsistence activities as one way of reducing dependency on non-resident hire.

At the Institutional level

Recommendation: Barriers to offering short-term, industry specific courses in a rapid response mode should be identified and eliminated. This includes both internal and external program approval requirements, budget amendment processes and hiring practices among other potential barriers.

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[29] Ibid., p. 2

Recommendation: Institutions should be encouraged to develop programs which take advantage of Alaska's unique location and climate and to market these programs to the Lower 48 and internationally.

At the state level

Recommendation: The Alaska Human Resources Investment Council (AHRIC), as the entity charged with comprehensive workforce development, should continue to identify areas where training is needed, inform training institutions of this need and help secure the necessary resources.

Recommendation: Local advisory councils and other ways of assuring a close fit between training, labor market demands and community economic development should be required of all state-funded vocational education programs. The Department of Education should encourage local districts to structure and empower local advisory councils and School To Work partnerships in a manner which avoids duplication and fosters coordination.

3. Provide leadership and resources

At the institutional level

Recommendations: Once an institution has determined to offer a program of occupational skill training, it should provide the staff, equipment and other resources necessary to assure program quality. Because funding will continue to be limited, institutions are encouraged to explore cooperative relationships to eliminate duplication and to fully utilize existing staff, equipment and facilities. Institutions are also encouraged to develop alternative delivery systems to extend training opportunities in space and time.

At the state level

Recommendation: Capital requests for training equipment and facility maintenance need to have some opportunity for funding from the state.

Recommendation: The state should support the reauthorization of the federal Carl Perkins Act, preferably along lines which would encourage reform initiatives. This implies that the current Perkins emphasis on special populations be lessened in favor of comprehensive, integrated program planning for all students.

Recommendation: The subcommittee of AHRIC charged with attention to vocational education needs to become more visible to practitioners and to include involvement of DOE staff.

Recommendation: School to apprenticeship efforts should be expanded to more students, possibly through regional or state coordination of local school and business/union efforts. The number of occupations covered by registered apprenticeship and employer-based apprenticeship programs should be increased.

Recommendation: The experience of vocational training providers in assisting clients to transition from welfare to work should be examined and considered in setting up the state's welfare reform system. In particular, the state is urged to use appropriate job readiness and occupational-specific skill training to the extent allowed under federal law.

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Information and data in this report were obtained from written documents, data bases, personal interviews and attendance at meetings related to vocational education.

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Student state officers from the Alaska Vocational Student Leadership Organizations

Students from Business Education at Juneau-Douglas High School
Students from the Medical Assistant Specialist program, Career Academy, Anchorage
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